MODEL AIRPLANE NEWS

JANUARY 1952 - 25 CENTS

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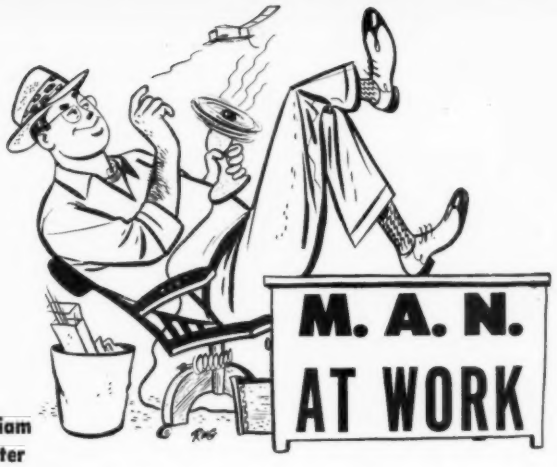

M. A. N. AT WORK

by William Winter

▸ Paul Simon, the Detroit *Balsa Bug* senior who won the National Championship this year, just told us a fascinating story about the way to become the man of the year in model airplane circles. "When did you realize you were going to win the Championship?" we had asked Paul, who caused us to park those feet under the desk for an afternoon. "I didn't," he replied. "It was so darn hot that my buddy and I figured it would be a good idea to get our flights in before one o'clock, then spend the afternoons in the swimming pool. Guess we just flew when the thermals were best!"

▸ The *Balsa Bugs*, says Simon, have a swell deal coming up this winter. This is for a 20-inch club project model for indoor flying. Cross section must be at least three square inches. The trouble with most indoor programs for bad weather flying is that everyone beats their brains out trying to make a new ship a week for the different scheduled events. The *Bugs* got smart. They use one model but there is a different event for it every week, such as clearing an obstacle or hurdle. When the indoor season nears the end and guys get that spring time slow-down, the *Bugs* will have less trouble in protecting their use of the gym. A few model builders playing basketball was no help!

▸ Another deal we heard of is a club contest based on a certain length rubber strand. Everyone gets, say, eight feet. What they do with it is their business. When members get together for a fly-it-out to pick a winner, anything is apt to happen.

▸ This must be National Champ week for visitors included 19-year-old Knut Hagen, who rates top man in Norway. He started in 1946! Knows what he is talking about. Over here on one of those C.A.P. exchange deals he stayed for two months in the Buffalo area and got to flying with DeBolt and local hot shots. Built a free flight and took first in his event.

▸ In Norway, as in many other European countries, gliders are most popular, according to Hagen. Engines and rubber are hard to get. Due to the engine situation, you are quite a man in Norway if you can loop a ukie. Knut had a good time doing the pattern on his visit here. Knut took fourth in the Nordic glider contest in Sweden last year and would have gone to Jugoslavia this year for the finals had not his American trip intervened.

▸ Still another champ, an ex-national champ, has developed two sensational airplanes, one a Wakefield and the other an indoor job. Spies report that the indoor job has done in the neighborhood of 34 minutes, and the Wakefield better than 5½ minutes when flown before sunrise. This is a most radical machine, but one that represents the logical solution to the rubber length and gears problem.

▸ We wonder if flying throughout the country is like this but every weekend we see all manner of ships that the contest boys never build, or at least don't bring to contests. Besides the *Hogans* and *Civvy Boys* in all sizes, last week's crop included a towline, two rubber jobs, about half dozen rc jobs, oodles of semi-scale free flight, and sport designs in both ff and U-control. Lots of rusty old married men turning out. Bring their supervisors, too, but impress more with their enthusiasm than with their flying.

▸ Flying scale fans who know how to wring out an airplane—if they only could get one that could be wrung out—will find their prayers answered by Jim Hunt's *Travel Air* bipe in this issue. This is a man's airplane. It is big, it is light, and it has the snap. Brother, does it have snap! We have seen the best of the scale jobs flown by the greats at the Nationals, and none of them can top this colorful bipe of the twenties. Even if you can't stunt, build it and fly round for a real thrill. This project has been a year in the works.

▸ If this January issue bears down on scale, it's because of all you fans who kept asking for models that looked like airplanes. For one issue, let's make 'em all look like the big stuff was the idea. But they must fly like blue blazes, was the stipulation. You contest fiends should build them, too. Free flighters could use a gay-colored

(*Continued on page* 46)

MODEL AIRPLANE NEWS

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"Spitzy" Sr. .045

Sensational airplanes and hot designs abounded at the Crescent All Western Open Model Aircraft Meet, sponsored by the Los Angeles Junior Chamber of Commerce under the supervision of Chairman Bill Gimball.

It looked like old times to see the speed merchants tuning up. Jim "Desert Streak" McElroy showed his heels to the rest of the gang in class D for the third year in a row with his final 144.46 mph effort. Jim's ship cowled the popular McCoy *.60* (stock, so help us!) engine, carried 45 square inches of wing area, and weighed in at an even 27 ounces. He uses the usual long, high metal tank pressurized from the crankcase and favors the Tornado prop.

Chuck "the Cap" Schuette had two little beauties entered in speed. You've all heard about his *Torp .19* record breaker complete with pen-bladder tank, so we'll go on with the Dooling *.29* powered job. This ship also uses the pen-bladder tank, has 21 square inches of wing area, and weighs 14 ounces ready to wreck a record. Chuck tells us that he uses the 7-10 Tornado prop and about a 40-50% nitro-methane mixture. His dolly, the ever popular tri-cycle gear type, carries unusually large front wheels mounted well ahead of the propeller. This type of gear allows a very good ground run before take-off and eliminates the chance of the plane leaving the dolly before the pilot is ready. Fairly rough take-off terrain is easily taken in stride. Schuette's Dooling *.61* ship (also using the pen-bladder tank) uses the *Desert Streak* pan.

George Mueller fairly burned the air with his *Torp .19* original speed job. But he timed in a bit too soon. Official time was 120.64 mph but a few laps later he was caught very close to the 128 mph marker. The old faithful pen-bladder tank is in this ship also.

We were interested in the starter equipment used by George Bosco for his speed job. Bosco uses a Power Product Utility engine with excellent results. This powerplant is gasoline powered, and looks like a small outboard engine. Being light in weight, the helper can easily handle it. The usual rubber hose for the prop spinner is on the starting spindle and the rpm's are just about perfect for starting model engines.

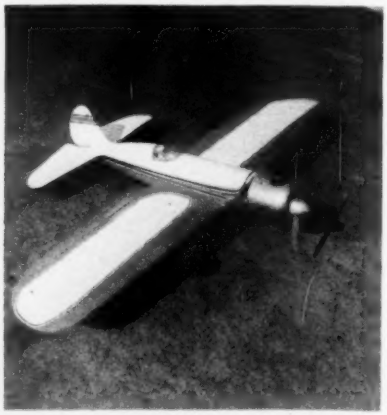
While on the subject of speed, Don Yearout's (Alburquerque) original jet job took a back seat to no one. Don turned over 130 mph to take home first place in that event. His ship uses the Dynajet engine and weighs one pound 15 ounces. He has turned well over the 145 mph mark.

The stunt jobs were the usual designs with Frank Gross going a bit all out on the nose moment arm angle. Frank's slick stunter had a two inch deep section (22%), weighed 28 ounces, and carried the *Torpedo .29* engine. The nose was out about eight inches from the leading edge of the wing. This ship had a very short tail moment arm and should have been very sensitive had it not been for the stabilizing effect of the long nose.

Doug Spreng's re-designed Lockheed *Orion* semi-stunt job was about the best looking ship in the u-control circles. The model sported flaps and a Fox *.35*. She is two and one-half pounds of mighty fine looking airplane. Here's a lad who is getting off the beaten path of profile jobs and the super barn door type of models.

The flashiest ship at the meet belonged to Larry Jenno of the *Syracuse Control Liners*. Larry was flying a Fox *.29* powered *All American Senior* and had the spectators on the edge of their seats with a well performed precision exhibition. This ship had red and white stripes down the wings and stabilizer with a blue leading edge. The nose sported white stars on a blue nose.

Marv Forman with 12-foot towline job. Silk covered, has 1,800 sq. in. area, seven pounds.



Doug Sprengs' Lockheed *Orion*. Has Fox .35, flaps. Looks good and is a big hardware winner.

by Jim Saftig

MODELS, MODELERS—BY MAN WHO GETS AROUND

The rubber and glider events took place adjacent to the International Airport. We pulled onto the field just as Marv Forman was towing his twelve foot glider into the air. The ship has 1800 square inches of wing area and weighs an even seven pounds. Marv used silk covering on the model and was getting some swell tows and flights. We didn't get a chance to see him stow this ship in his car but plenty of overhang should have been evident. Gliders of all sizes and descriptions were in the air.

Sepulveda Basin was the site for the free flight gas and radio control events. The u-controllers certainly took a back seat as far as ship and contestants were concerned. The place was practically mobbed but these events ran off with little or no trouble. Our good friend, Jack Bollinger, had the *Zeek* line covered and then some. All classes were present and accounted for by using a blown up *Torp .29* powered job and another version using the class D *Spitfire* engine. Young Bollinger had his hands full trying to get all of his flights in with only one pair of hands to help out. Ken "Drake" Willard gave us a sneak preview of his new design. Ken has built up a two foot "Stubby" powered with a *Wasp .049*. This ship is just half the size of his new 48-inch job that will be built around the *Torp .19*. You're packing a lot of dynamite into that four foot job, Ken!

Caught Tommy Prothroe with his *Navajo*, a Veco free flight job that should be out shortly. This ship has 160 square inch of wing area, weighs four and one-half ounces and has a *Wasp .049* doing power duty. Tommy fired it into the air on his first flight for a cool ten-minute hop. The climb was terrific as was the glide. "Hi" Johnson, not to be outdone by Prothroe, showed us the new Veco *Comanche* PAA-load job that should soon be out. This ship is in the AA class and goes up like a rocket. We especially enjoyed the nice pull-out when power was cut.

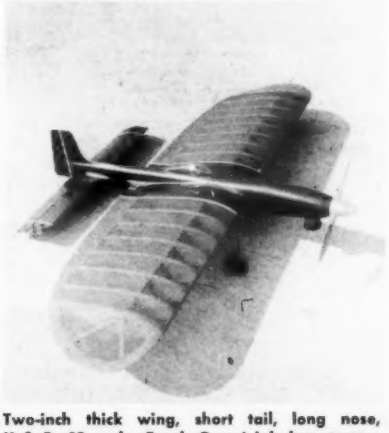
Over in the radio area we watched the r.c. boys shoot the works. Our attention focused on Jesus Guerra's *Wasp* powered *Bootstraps* first off. Guerra had an RK 61 coil-on-tube radio rig that weighed under four ounces complete. The flying weight of the whole ship was ten ounces. This pint sized r.c. job sports a two-speed engine control using neutral. A choke system is used all the time except on second neutral.

Howard Bonner came up with another slick arrangement using a compound escapement. The escapement is used in conjunction with the Citizen Band outfit. This is the way the rig works. The transmitter button pushed once gives left rudder, two pushes gives right rudder, three pushes changes engine speed. The beauty of the set-up is that no sequence has to be followed when operating the transmitter. You always know that any one of the above mentioned transmissions take over no matter what signal you were on last. A gear train has been incorporated to slow down action and helps eliminate any skip. This type of installation weighs only three quarters of an ounce over the standard equipment with all equipment in operation. It's getting so we can't keep up with Bonner's new developments. While on the subject of r.c. we would like to add a plug for the new club known as *The Los Angeles Radio Controllers*. At the first meeting, 19 charter members signed in. Dick Schumacher was elected president and Howard Bonner secretary.

* * *

E. L. Rockwood, from up Walnut Creek way, let us know in no uncertain terms, referring to the October issue of MAN, that the East Bay area has been organ- (*Continued on page* 52)

Chuck Schuette's Dooling .61 job. Uses a pen-bladder fuel tank inside of an oiled balloon.



Two-inch thick wing, short tail, long nose, K & B .29 make Frank Gross' job hot stunter.

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Pouring Spout For pint cans .10	
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PROPELLERS

Rite Pitch Stunt 6, 9, 10, 11, 12, 13, 14", in 4, 8 or 9 pitch .25

Scamper Plastic 8½" Sp., 6" 4p. .25; 9" 4p., 45 10" 10p., 11" 8 p., .65

Super Spl. 8", 9", 10" in 4, 6 or 8 p. .15

Veco 6" Sp. 4p. 7" 4p. 5p. 8" 5p. 6p. 9" 6p. Tp. (6"—25c; 7" & 8"—30c 9"—35c)

Kaysun 5.3, 5½/4, 6.3, 6/4, 6/5—15c; 7/4—20c

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E-Z Running Stand 1.50

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Spark washers .05

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Gadget Switch—Sm—25 Turn .50
Ohlsson Snap-Pack .35

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2" .75 1.20
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Scamper Plastic 1½", 1¾", 2", 2½" .45

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1¼"; 1½" 35c; 1¾"		.40
2"—60c; 2½"		.75
Tail Wheels ½", 1"		.15
Trexler Pneu. (pr)	1½" or 1¾"	.40
1¼"; 2"—50c; 2½"; 2¾"—60c		
2½"		1.00
3"		1.25
3½"		1.50

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.004 or .006 x 2—35c	.35
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are most of the new items. Sometimes there isn't time or space to include them. But, if available, we have it.

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Ranger Glo	.90	—
Testors 39	.75	—
Dynaglo	.85	—
Ranger AA	.90	—
Blue Blazer #1	.70	—
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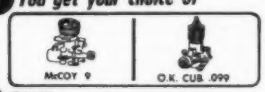

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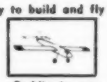
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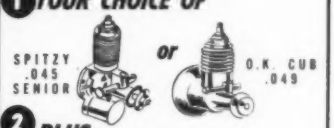

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  We have for sale a limited quantity of unfinished grey-iron cylinder castings of this famous engine and while they last you can have them for 25c each or five for $1.00.

  A nice memento of the early days of modelling and a fine paperweight, too.

  No. J1 ..... **25c each or 5 for $1.00**

SOUVENIR ITEMS FOR YOUR DEN OR DESK

- Recently a would-be manufacturer of a model diesel engine decided not to go into production and gave us his initial run of 1000 aluminum castings (cylinder, crankcase and intake, in one).

  They are of interest, of course, only to modellers as a curio or paperweight. But actually, if you have access to a lathe, drill press, etc. and are mechanically inclined, you have the principal part of an actual engine. An interesting addition to your collection

  No. J3 ..... **35c each or 3 for $1.00**

- Three-inch iron flywheel casting. Weighs almost one pound.

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- 14-inch aluminum propeller casting. Left-handed pitch. A bit of sanding will put a beautiful finish on this

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  No. J7 ..... **3 for 25c**

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OVER A GENERATION OF FAIR DEALING GUARANTEES YOUR SATISFACTION

20 YEARS AGO

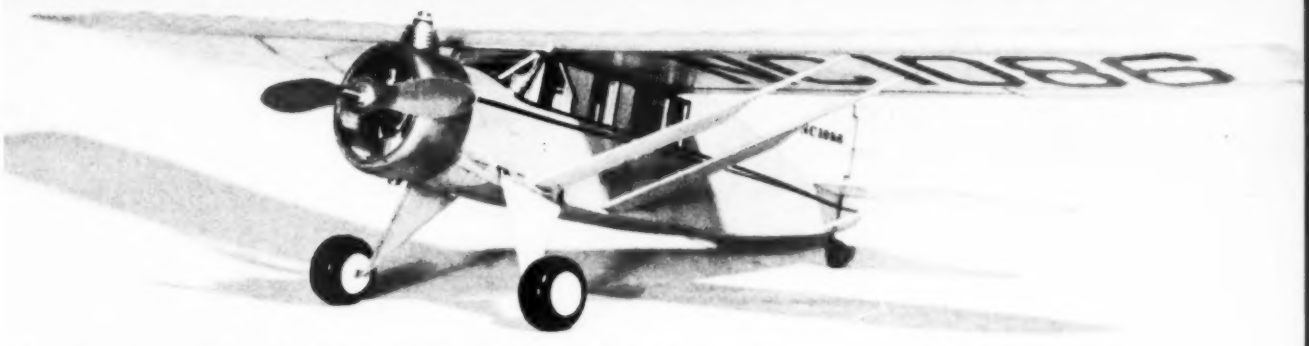
One gets a jolt browsing through the file copies for dope on things as they were in modeling circles twenty years ago. Familiar names—but not familiar faces!—jump out from the pages. The American Sky Cadets, running as usual in the January 1932 issue of M.A.N., included a report on the Stern's Sky Cadets Contest and, in the winners' circle photo, there are our friends, Benny Shereshaw and Frank Zaic. Benny went on to manufacture the Bantam engines; Frank you know from Jasco. Benny was supervisor of the Cadets; Frank holds a cup for a speed time of 62 mph. That was with rubber bands, son!

Some of the ads jolt you, too! Wonder how many other old timers built some of the models displayed? For a buck and two-bits, Scientific Model Airplane Co., had pictured five flying models: a *Spad*, Lockheed *Sirius*, *SE-5*, Lockheed *Vega*, and Fokker *Triplane*. An interesting sidelight is the great interest today in some of these same airplanes. Scientific had put lots of dihedral in that *Spad*, the *SE-5*, and the *Tripe*, which showed the company knew what it took to make some of those birds fly. We built that *SE-5*! It was light, stable, and flew so slow you could walk across the field beneath it. Pop Dan Frisoli ran the shop then. Drove 25 miles to buy materials from him. Nowadays, son Johnny carries on. He remembers them all, too.

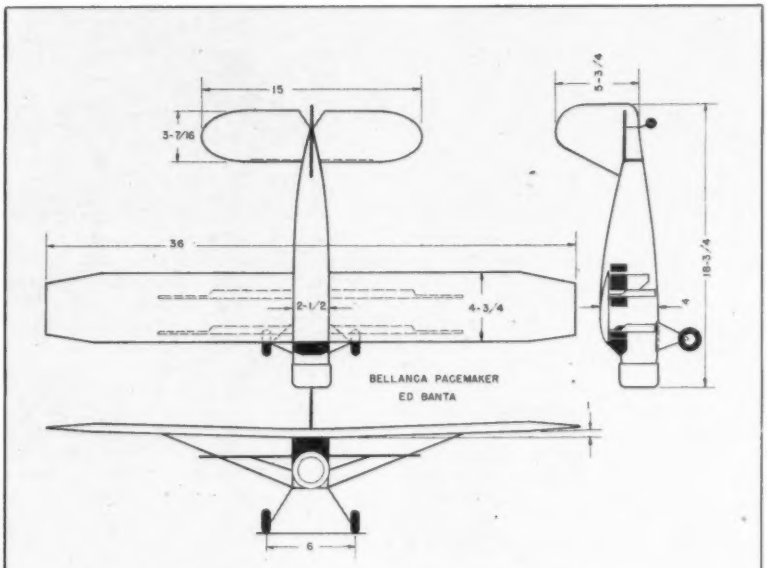
The giant airship, *Akron*, was building at that time and M.A.N. led off a lively January issue with article and pix about the tremendous dirigible dock in Akron, and the framework of the big gas bag.

Remember Jesse Davidson? He's still around, though not active as a modeler. Jesse had a seven-page plan article for building a 1/48th scale Consolidated *Commodore* flying boat.

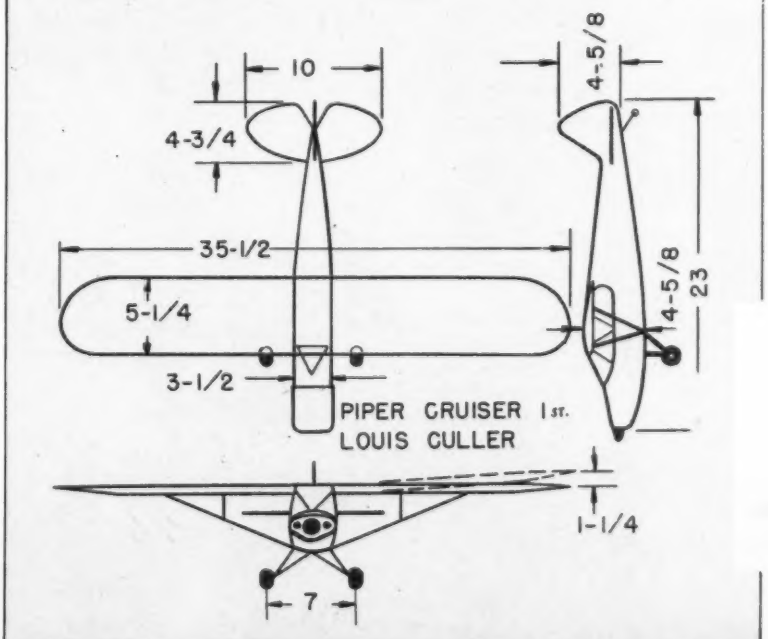
Stockton Ferris, the chap who ran the three-view series, had an outline drawing of the immortal Fokker *D-7*. "Prof" T. N. de Bobrovsky came through with an elaborate set of plans for a flying model of the Buhl *Bull Pup*. This was a superlight job. If you were a really good builder you could make one of these ships talk—provided there was no wind whatsoever. Those were the "good old days." But can you imagine how the readers would have gone crazy over a gas engine? U-control? Radio control? What will they be saying about us twenty years from now?



Bellanca *Pacemaker*, by Ed Banta, has 36-inch wing, seven-ounce weight. Sheet body, pop-out wings, shock-absorbing gear. In 3/4-inch scale, is *Torp .049* powered. Has generous area.



Free flight scale is going to town, thanks to the baby engines. Here's a round-up of possible rules and ships.

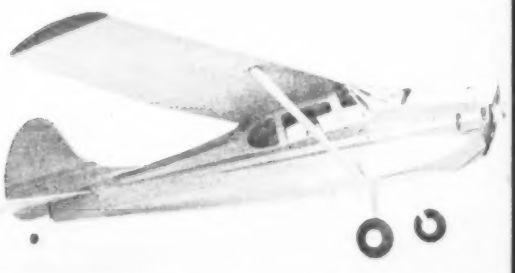


Scale's the Thing!

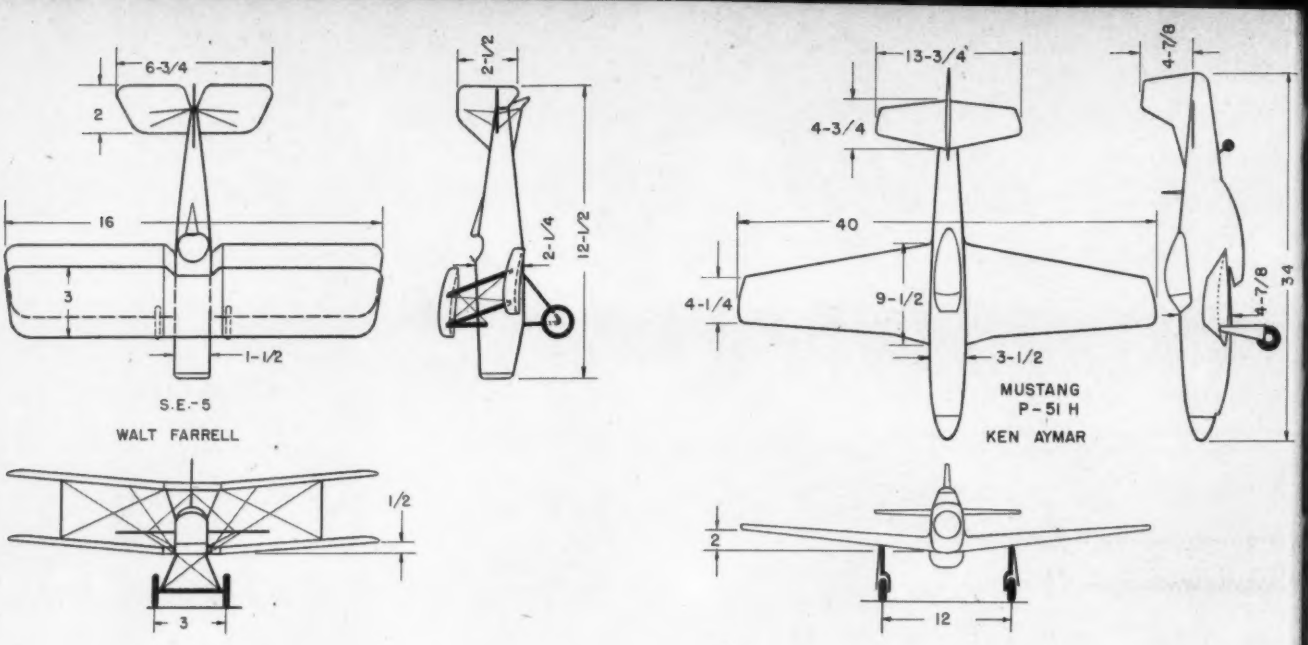
by Dick Ealy

With the introduction of AA engines several years ago, true miniature flying scale free flight models became a reality. But we find ourselves without official A.M.A. rules on this important event. We say "important" because there is a lot of activity with competitions being held throughout the nation. Therefore MODEL AIRPLANE NEWS is presenting this article with the hope of crystallizing action through adoption of a practical set of rules for AA free flight scale models. Those who are building and flying this type of model urge the A.M.A. to use the AA gas event at the National Contest. This is a forward and progressive step in keeping with the times.

There are many who remember the popular rubber-powered scale event as the biggest challenge in model flying. However, with all the problems involved, such as torque, over-sized props, short motor run, winding and breaking motors, the hey-dey of this type craft was a thing of the past when gas motors arrived on the scene. On the West Coast, contest for semi-scale gas ships judged on 50-50 basis was the ultimate of the late '30s. Points were given on 50%



Light planes make good appearance without overwhelming detail. This pleasing Cessna *170* by Bill Dean, England.



for appearance and 50% for performance of the flight. Motor runs were about 40 secs. with ships climbing slower due to ignition and low powered motors.

Then in 1940, Jim Walker developed U-control and flying scale got a big shot in the arm for it became possible to fly nearly any ship; many that could not be flown as free flight were easily converted to control line models. As early as 1938, a Baby engine using ignition had been successfully developed by Owen Chapman, but weight of the ignition made it too heavy. Development of the glow-plug by Arden in 1947 opened up the field of AA engines and they have hit the spot for all who used to dream in the past of a tiny engine which could be cowled, easy to start and cheap.

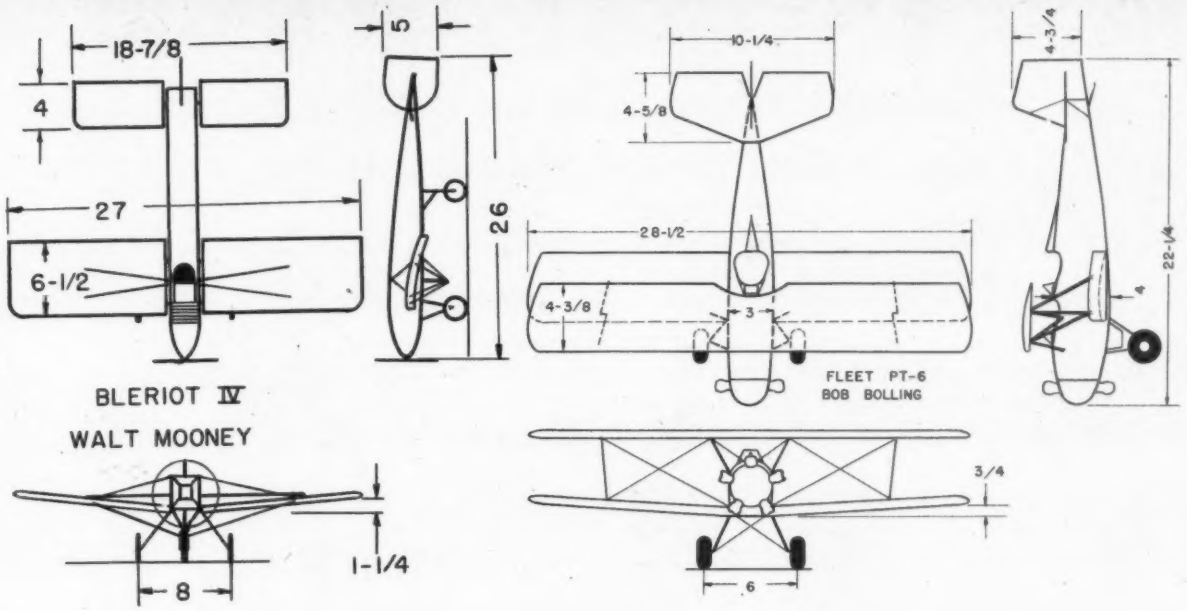
The *Flightmasters* of Inglewood, California, have pioneered in AA scale gas event by holding two annual meets. Louis Culler won first at both meets with his Piper *Super Cruiser*. Photos of other contestants who participated, illustrate the fine craftsmanship and realistic appearance of these tiny ships.

Models could be hand-launched, but 50 bonus points were awarded for an unassisted take-off, which most entries went after. The average of three judges, who were members of the Historical Society of Institute of Aeronautical Sciences, was used for scale points. Maximum was 700 points with the break-down as shown.

There are some who feel the dihedral angle especially be kept very close to big ship—perhaps two degrees tolerance to keep power loading lower and flying more realistic. Walt Mooney of San Diego points out that a high-wing, large-tailed, fabric-covered air-

Exact scale Aeronca C-3, 1936 version, by Cedric Galloway, is powered by *Wasp* .049. Engine size helped scale appearance.

Right—A one-inch scale Fleet *PT-6*, Bob Bolling. Span 28-1/2 inches, weight seven ounces. Built-up, paper covered. A *Wasp* .049.



plane is easier to simulate and fly than a low-wing, small-tailed all-metal fighter plane. The point system should compensate for this. Judging the ships should take place the day before, in order to allow time for accurate comparisons. Bob Bolling suggests ships be impounded on Saturday afternoon if ships are to be flown Sunday morning. Points on flying judged as shown.

FLIGHT RULES:

1. Five minute limit on flights. No limit on engine run.

(*Continued on page* 54)

POINTS AWARDED FOR FIDELITY TO SCALE AND WORKMANSHIP

	Maximum Points Printed				
	Fuselage	Wing	Tail	Ldg. Gear	Overall
Proportions	50	40	40	40	—
Structure	30	30	30	—	—
Details	40	30	30	30	—
Engine & Cowl	80	—	—	—	—
Cabin/Cockpit Interior	50	—	—	—	—
Dihedral	—	50	—	—	—
Finish & Covering	—	—	—	—	80
Marking/Color Trim	—	—	—	—	50
Total	250	150	100	70	130

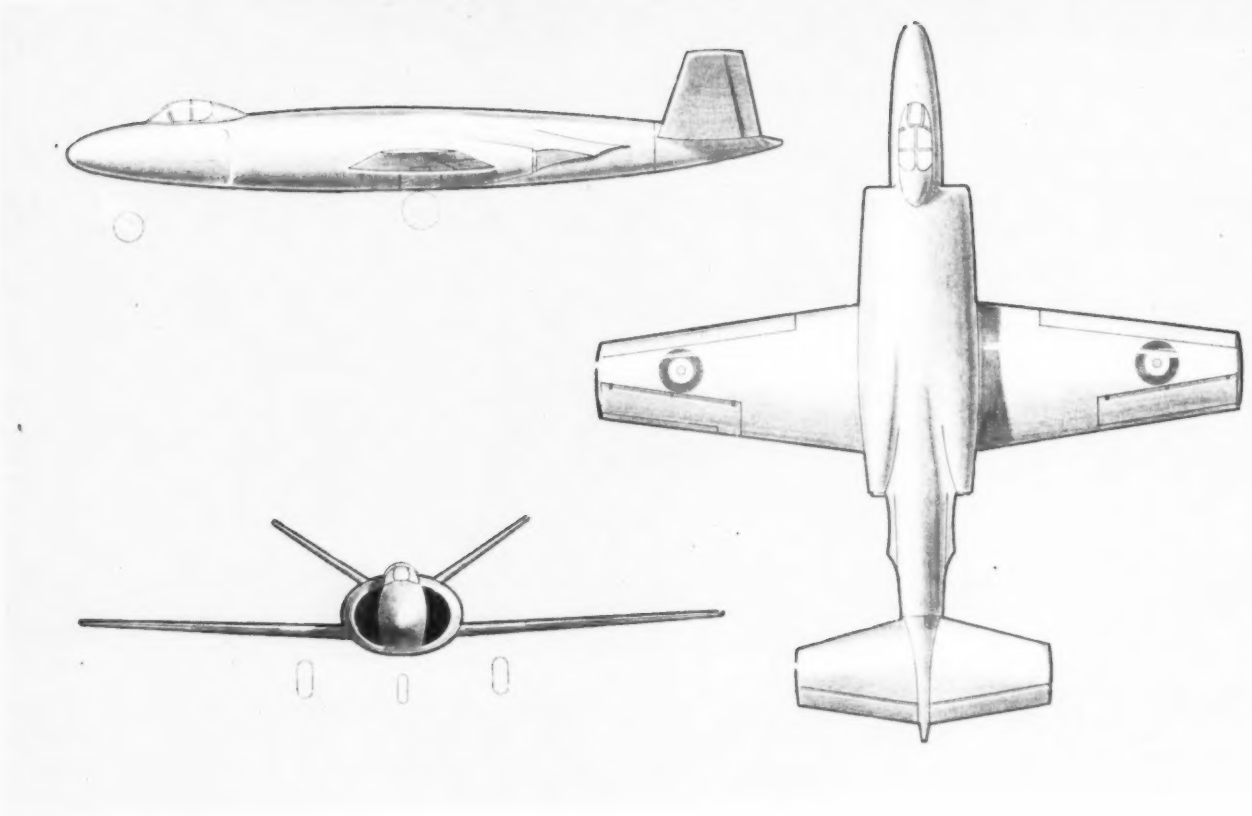
Total Scale Points (700 Max.)

The drawings on these three pages provide valuable reference for sizes, areas, and power, in scaling up designs from your three-views.

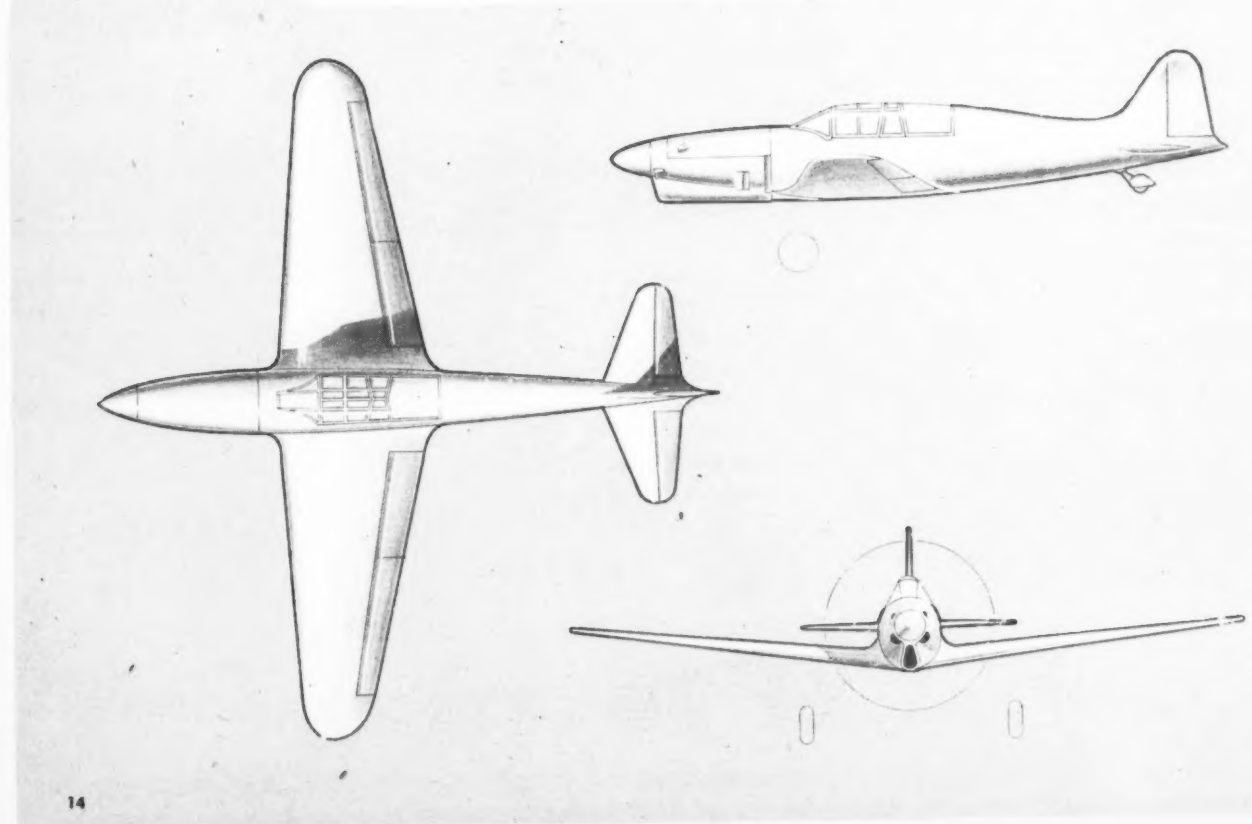
Right—Ken Aymar launches his *Mustang*. This amazing *P-51* has aluminum foil covering, shows types that can be made to fly. Who said that low wings won't fly?

Below—Made from a Cleveland model kit, Louis Culler's 30-inch *Ercoupe* shows rare detail. In one-inch scale, *Torp .035*. Many rubber model kits on market can be converted.

No. 19—Supermarine 508



No. 20—Ambrosini S.7



PLANES in the news

by David Anderton

As air weapons make swing from piloted to pilotless, missiles will resemble airplanes. Martin's *Matador* looks like cross of V-1, B-51.

January ushers in a new year—a year which promises a new crop of air weapons, fruits of postwar research. Although none of these could be properly listed in the "fantastic new" category, they represent an advance over recent aircraft practice, and a reasonable next step in the evolution of aircraft.

We are in a transition—our weapons are slowly making the swing from piloted to pilotless—just beginning the changeover. Within a decade, most of our air offensive power and anti-aircraft defenses will be missiles. So what you can expect to see during the next couple of years is a collection of guided missiles which look like airplanes as we know them today. They will have swept-wings, high-set swept tails, and be powered by turbojets. In short, they will be pilotless planes.

Like the Martin *Matador*, for instance. One year ago the Air Force ordered this bird into production. Its mission is identical with that of a bomber's. It carries its explosive warhead 500 miles to an enemy target to destroy it. Unlike most bombers, the *Matador* is a one-way trip, a suicide job. But the pilot that rides it down is an inanimate mass of black boxes, wires, tubes, condensers and resistors.

In appearance, the *Matador* is a cross between the German *V-2* and the Martin *B-51*. It is about 30 ft. long, weighs about 12,000 lbs. Speed of the bird is high subsonic, probably about 650 mph.

The *Matador* is powered by an Allison turbojet (probably the *J-33*) mounted inside the fuselage. Air is taken on board through a flush-type duct inlet just below the wing in the fuselage belly.

In launching, the missile is mounted in a cradle on a flat-bed trailer. The cradle is elevated to the firing angle.

A solid-propellant rocket delivering 1000 lb. thrust is mounted on the under side of the fuselage near the tail. Its nose snuggles into a pair of doors opened around a receiving fitting for the rocket shell. Purpose is to give initial boost to the *Matador* while the turbojet is getting up to full thrust.

After the rocket gives out, it drops off and the fitting doors close.

Matador is a post-war effort which started as an Air Force project bearing the designation of MX-771. During one of the many re-evaluations of this country's guided missile program, *Matador* (*Continued on page 48*)

Powered by side-by-side Avons, Dehavilland's *110* all-weather fiighter carries electronic combat, navigation aides. Performance must be incredible.

From the air-cooling hole and cowling louvers, back to the tail skid, the author's bipe is accurately scaled. Its size is apparent.

by Jim Hunt

the Travel Air

Probably the most maneuverable scale job yet designed, this model of a historic "great" weighs but 37 ounces for its 500 square inches of area. With a Fox 35 it has what it takes!

When I was a boy, I saw the original *Travel Air* in flight and talked to some of the pilots who flew it. The plane was a real performer with only a 90 HP engine.

I have been flying stunt ships for many years and have always been looking for models of more realistic appearance and planes which would perform better than the usual designs. Finally I ran across the drawings and description of the *Travel Air* sport trainer built in 1931.

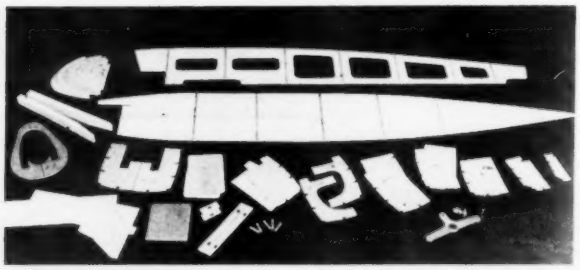
This plane also appealed to me as the ideal model for trying out some new types of construction which I believed not only would be easy to build but would have a very high strength-to-weight ratio. The model has been designed to obtain the maximum in performance without sacrificing any of the prototype's details.

The first test flight proved my theories were right and successive flights proved that this plane does a complete stunt pattern with precision and stability.

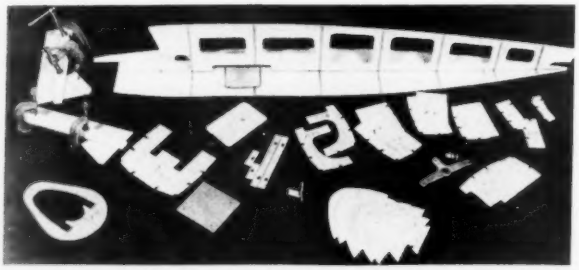
By carefully selecting wood, the weight of finished model can be kept down to 36 ounces. This model weighed 37 ounces which, with 500 sq. inches of wing area and a Fox *35* engine, makes a super performer.

Trace from your full-size plans the top deck former—outline of the fuselage viewed from the top. Cut all parts of the fuselage before proceeding with assembly. The locating lines for the formers are drawn on the balsa wood. Use a ballpoint pen of the 25¢ variety.

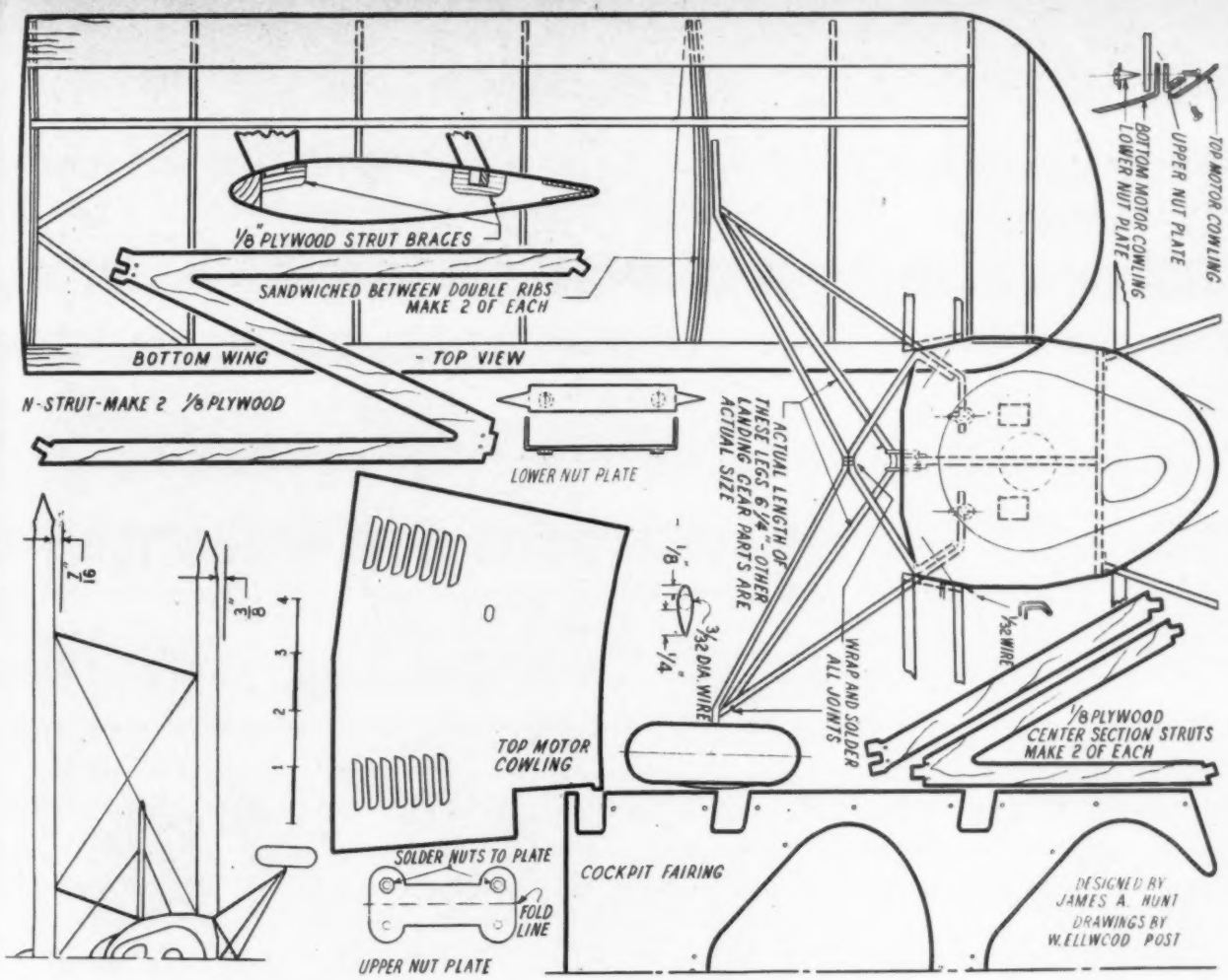
Step one is to cement the vertical center keel to the deck. Carefully line up the former lines and space keel in exact center of deck. Plywood lower bellcrank mount should be cemented on after first coating plywood with thin coat of glue and allowing it to dry. The hard maple motor mounts and the plywood pieces are also coated with glue and allowed to dry before cementing together as shown in the photo.



Fuselage parts cut out. Basis is a deck and lightened keel piece.



Keel and deck assembled. Note C-clamps holding glued motor mounts.



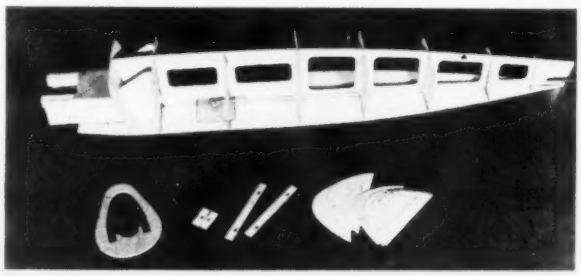
Assemble screw and washers in bellcrank and push through the hole in bellcrank mount and through the top deck. Leave nut and retaining washers until top bellcrank mount has been cemented into place. A three-inch Veco bellcrank was used with the 1/16" pushrod fastened in outside hole. Put a washer on the end of the wire and solder. Note that the pushrod slides through short pieces of aluminum tubing which is held to center keel by the formers numbers F4, F5, F6, and F7.

The motor mount parts are now assembled with plywood formers F2 and F3. A square piece of 1/16" plywood is cemented and screwed to bottom of the motor mounts as shown in the photos. No. 1/4" x No. 4 flat head screws are used.

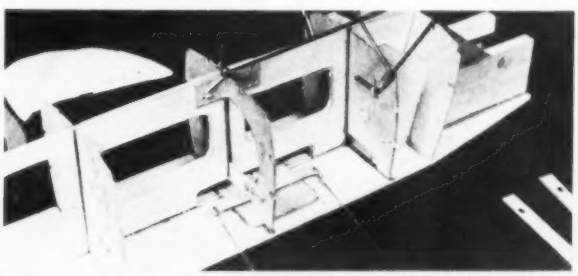
Form the landing gear from 3/32" music wire as shown on drawings and in photo. Sand landing gear clean and bright before wrapping and soldering joints with .005 or .010 brass or copper wire. The forward part of the landing gear is held to former three with two J-bolts. The rear member is held to the fuselage by two wire anchors made from 1/16" music wire or spring brass wire as shown in the photos. At this point leadout wires of from .025 to .030 diameter music wire are attached to the bellcrank.

The fuselage now can be turned over and the top bellcrank mount of 1/16" plywood cemented into place with the washers and retaining nut screwed into place. The next items to be mounted are 1/16" strut plates which are cemented to the fuselage deck along the edge as shown in the plans and in photos. Be careful to put the strut mounts in proper positions as the incidence of the top wing will depend on accurate location of these plates.

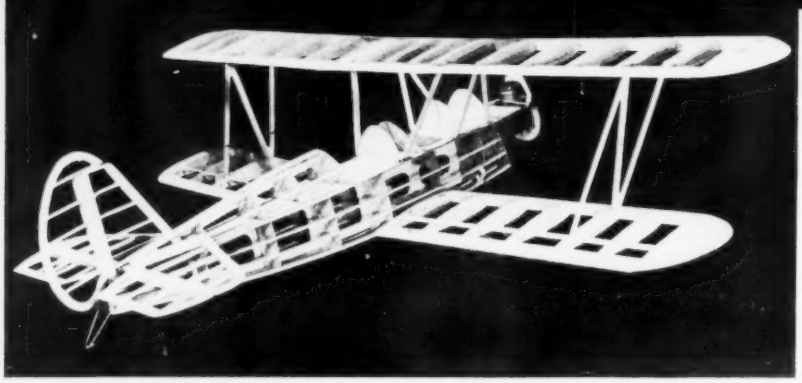
The tank now can be fabricated and mounted in between the motor mounts. Cement a piece of 1/16" balsa in between the motor mounts and to the top deck in front of the

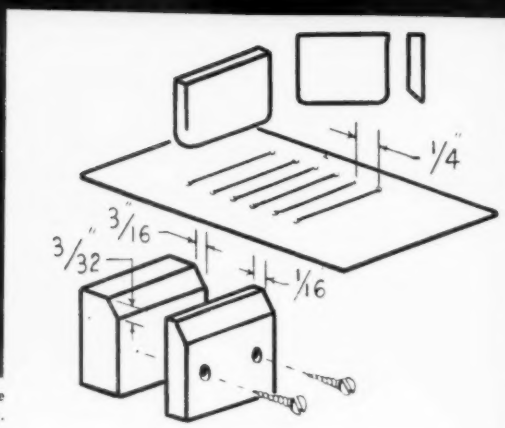


Mounts, formers assembled. Note the five supports for the pushrod.



This gear will never pull out. Bellcrank mounted on plywood plate.





The completed basic framework. Stunt airfoil is used. Right—This sketch shows how the scale cooling louvers can be made. Below—Construction details of "clank" fuel tank.

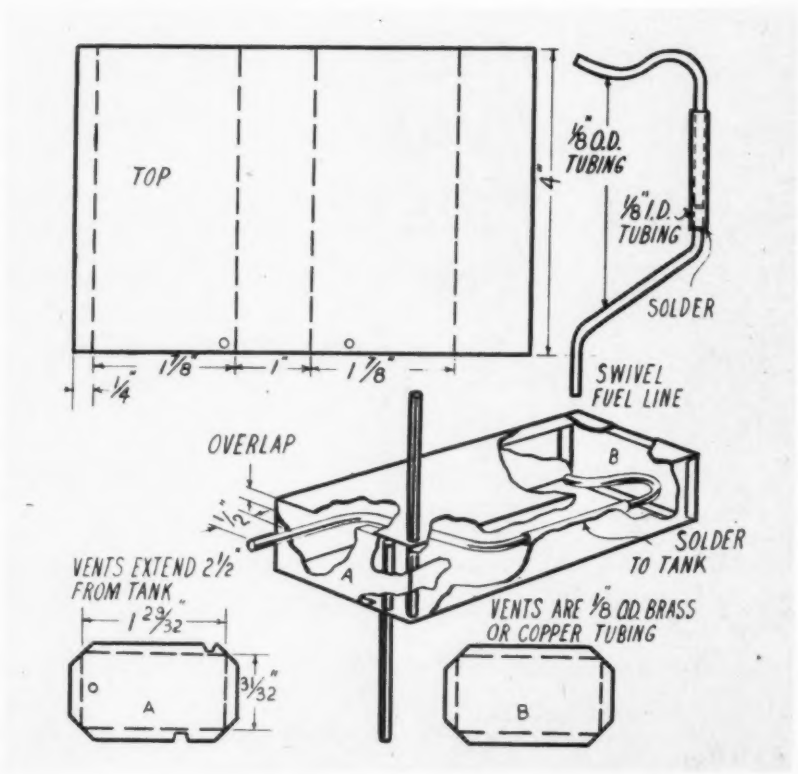
tank to keep fuel from seeping into the fuselage. The engine can be placed in the mounts and holes drilled for the engine mounting bolts. Former one is cemented in place. The engine can be removed with this former in place, but the tank cannot be removed after the former has been cemented. All of the stringers on the bottom part of the fuselage should be 3/16" sq. hard balsa.

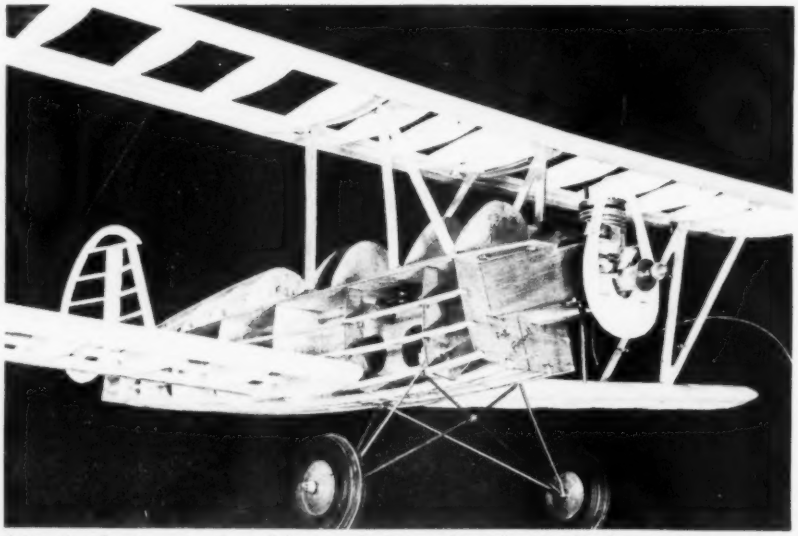
Shape and cement into place the landing gear fairings as shown on plans. Also shape tailskid from 3/32" music wire. Solder a small piece of steel or tin to bottom of tailskid to act as a shoe. The tailskid shock absorber can be simulated by wrapping plastic covered electrical wire around the upper member with insulation stripped from each end, then soldering to the tailskid to hold in place. Be sure to drill holes slightly smaller than the tailskid wire before attempting to push it into the end of fuselage. The fuselage can now be set aside until all tail parts are finished.

Build the horizontal stabilizer and elevators as shown in plans. Be sure to notch 1/4 x 1/8" ribs into leading and trailing edges. This helps eliminate warps and adds to strength. The elevator horn is a standard Veco type with 1/16" holes in the horn. The center hinges are made by bending .020 wire around elevator wire in the form of a long hairpin. Holes are made in stabilizer spar with pins and hairpins are pushed through and bent over as shown in the plans. Small blocks of balsa then are fitted between bent ends of hairpins and stabilizer spar. Outer hinges are cut from bias seam facing tape. They are only 3/8" wide and the spars are notched down so that fabric is flush with top.

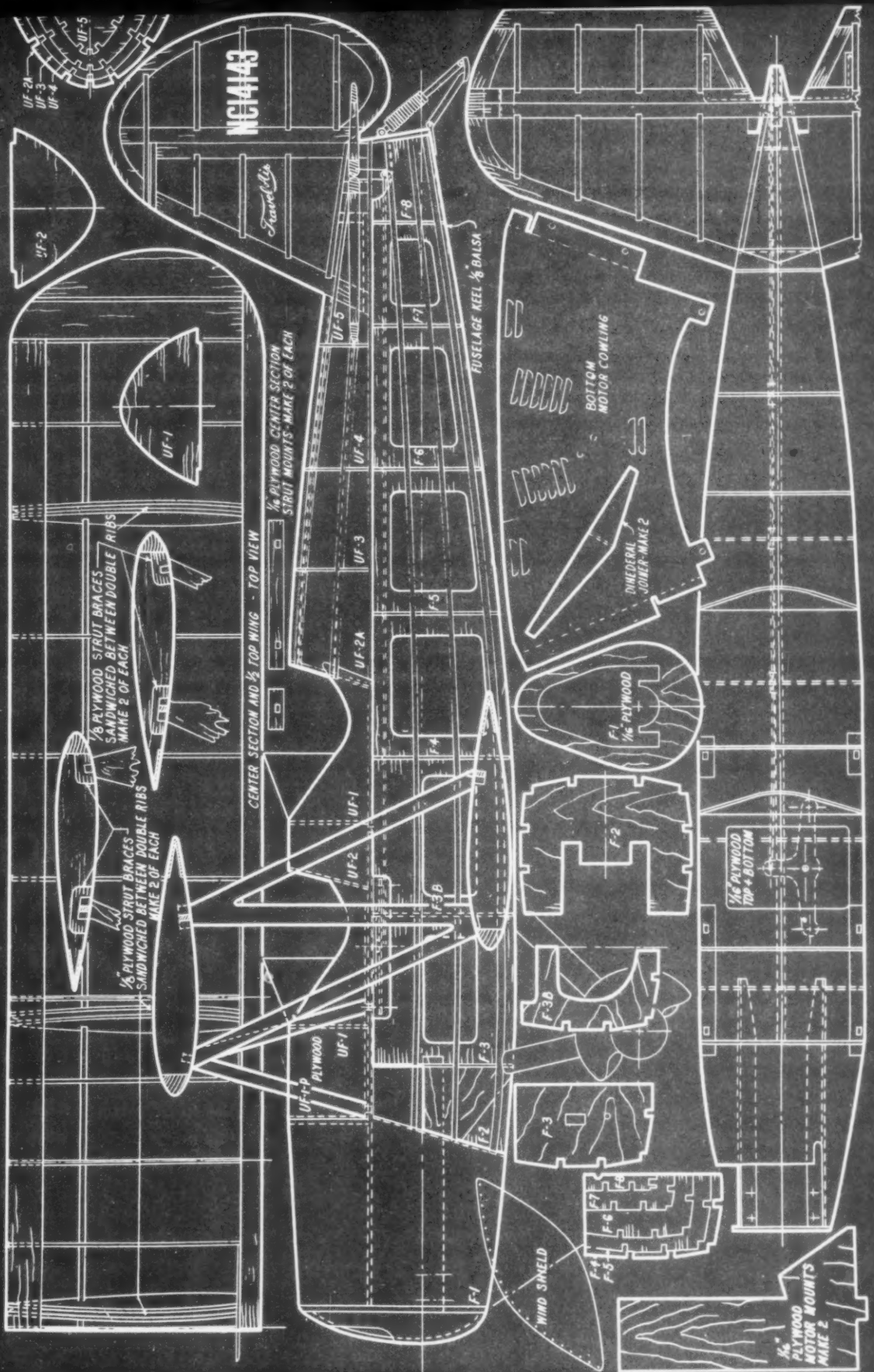
After tail surfaces have been made, they are carefully carved and sanded to shape as shown on plans. While drying, make rudder and fin in two parts, using the same precautions as on elevator and stabilizer. Sand fin to shape. Cut two pieces of 3/16" sq. balsa and cement along top edge of deck from back edge of former UF5 to spot under rear spar of stabilizer.

Bellcrank is centered and held in place by pins or a clamp while stabilizer elevator assembly is lined up along top of the 3/16" pieces. Front edge of stabilizer should be flush with rear surface of UF5. Pushrod now is marked and (*Continued on page 38*)





Interesting front quarter-view of framework shows plywood web, plus beam, engine mounts.



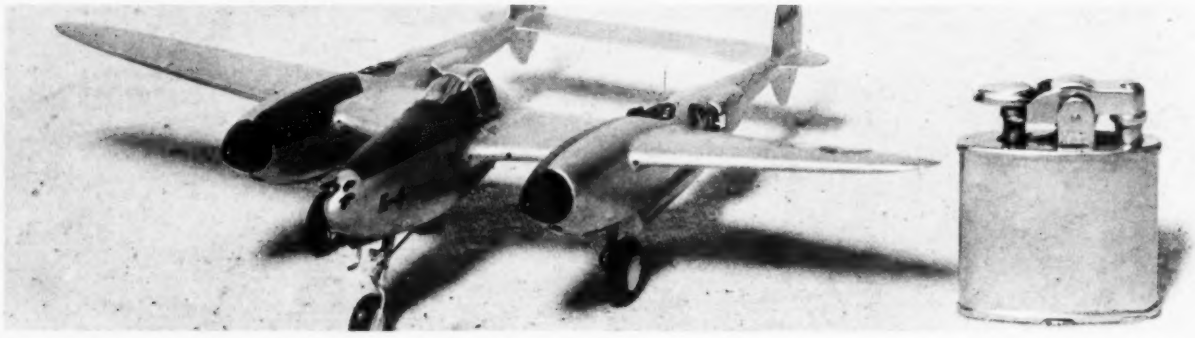
FULL-SIZE PLANS FOR BOTH "TRAVEL AIR" AND "FLYING RAZOR" AVAILABLE. SEE PAGE 52.

This drawing is one-third of full size.

air ways

OUTSTANDING MODELS BUILT BY READERS FAR AND WIDE

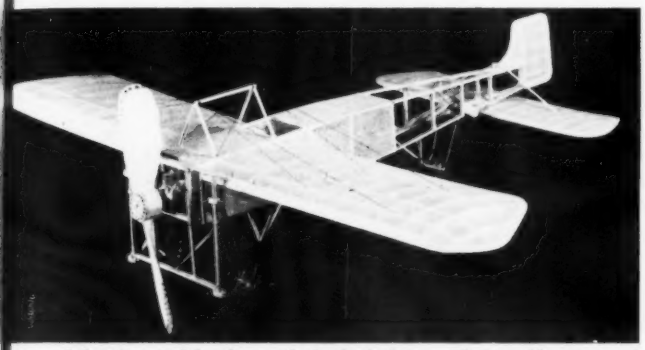
$10 first prize winner for workmanship goes to Jack Elem, Fullerton, Calif., for this trio of tiny scale jobs built while he was in the Army. Top to bottom—P-40, P-51, and the P-38. Note the lighter.



Second place subscription winner: Avro 504K, Spitzy powered, by Warren Watson, Baldwin Park, Calif.

Third place subscription winner: Well-built, neatly covered PAA-Load job, by Johnny Deitch, Williamsport, Pa. Is powered by Cub .049.

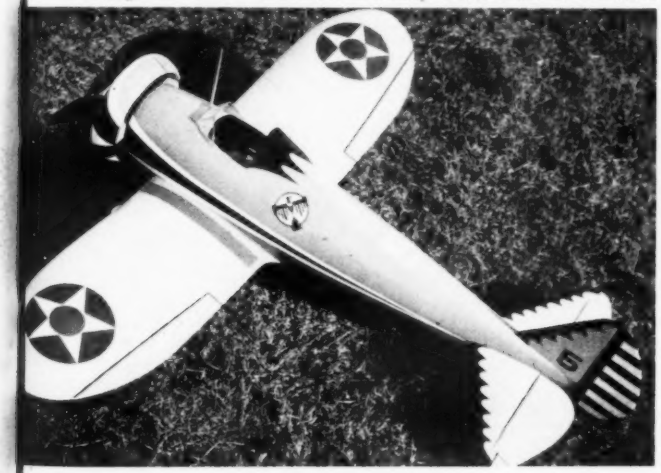
Rubber-powered Fieseler *Storch*, flown at Nats by Dick Quermann, had 40 strands of 3/16" brown rubber driving prop geared up two-to-one.



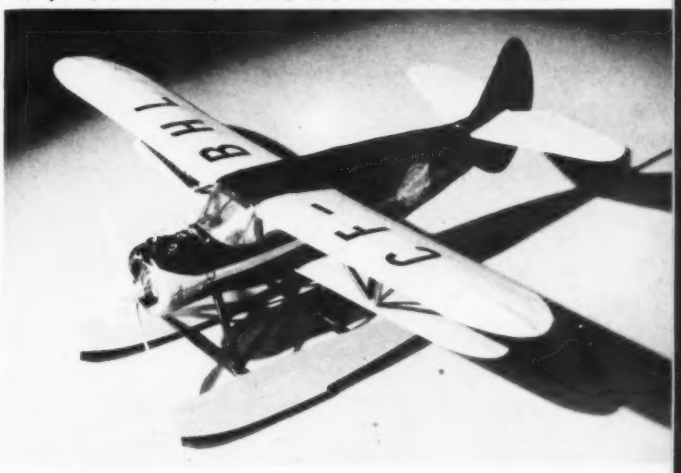
Balsa tires and bamboo-spoked wheels feature Bleriot rubber-powered flying scale, built by Karl Spielmaker, of Grand Rapids, Mich.

"I like them big," says Harry Tannenbaum, Philadelphia, who scaled up *Wagtail* plans, September M.A.N., to 1/6th size. Junior looks on.

Bob Elliott, Denver, used carved fuselage and sheeted wings on this Boeing *P-26*, silk over all. Has a McCoy *Redhead* .29 in the cowl.



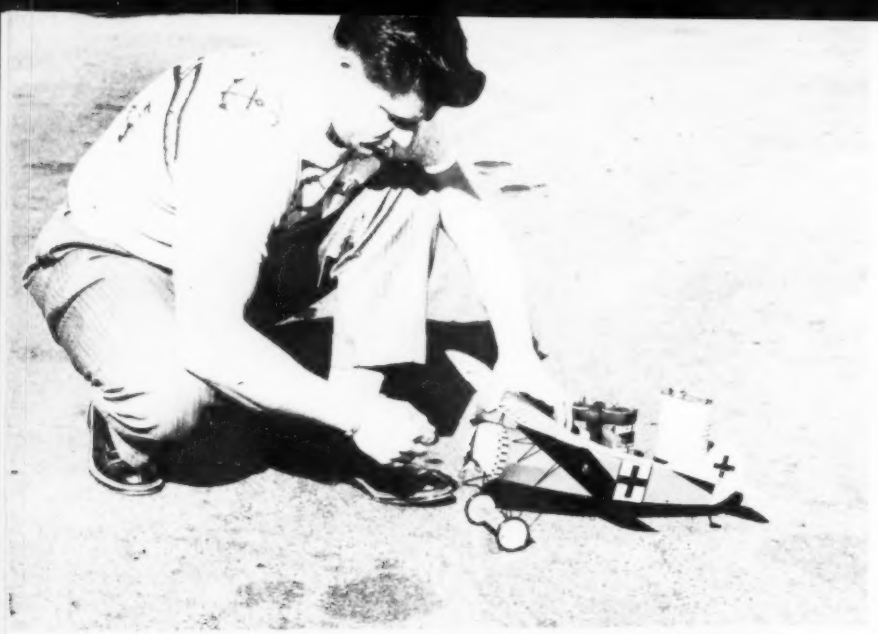
Long water take-offs and gradual climbs add to realism of this Waco float plane, E. K. Burden, Toronto, Can. Flies on O & *R* .23 motor.



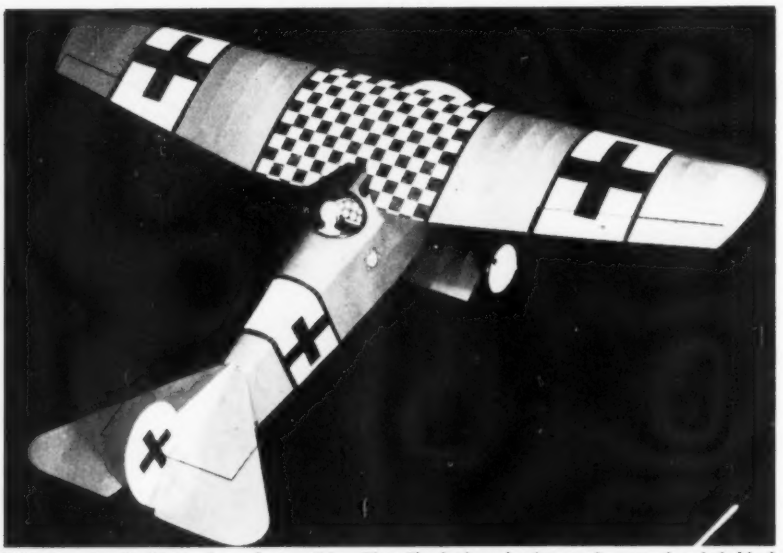
Spartan *Arrow* in one-inch scale, by Cpl. Weiser, Hamilton, Ontario, Can., uses third line for throttle control. Note the dummy pilot.

Frank Ehling's *Diesel Sportster*, September 1946 M.A.N., made fine flying gassie for G. H. Berry, Vancouver, Can., on .049 and .074 Cubs.

the flying RAZOR

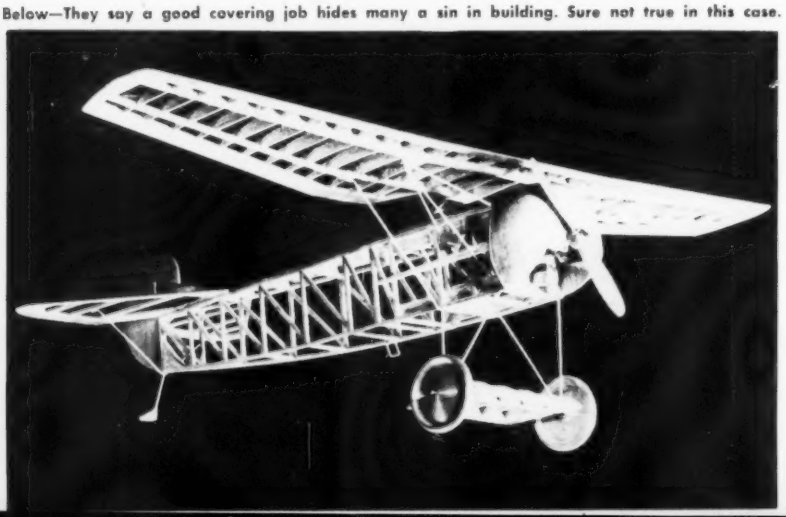


Our D-8—and yours—will make one of the prettiest models on the field. With full war paint, weight is only seven ounces. Atwood .049 Wasp is used but you can substitute any AA engine.



Brilliant red-and-white color scheme, *Trim Film Checkerboard* trim, and once dreaded black crosses should satisfy anyone with a yen for decorations. Dihedral has been added for stability.

Below—They say a good covering job hides many a sin in building. Sure not true in this case.



by Ted Grzesczak

The Fokker *D-8* with its high wing location, large stabilizer and few wing struts make this ship a wide choice for modelers who want a realistic scale model and yet not take a master to build or fly it. This all-red model with white band and jet black German crosses and checkers make this job a stand-out in the line up.

The wing has only 1-1/4" of dihedral under each tip. This proved ample as the ship is not fast and trimming is easy. The wing struts are soldered together at the wing junction and a loop is bound and soldered in place. A bolt is slipped through here and screwed to the bass blocks cemented in the wing and backed up with a nut soldered to a brass plate which is cemented in place.

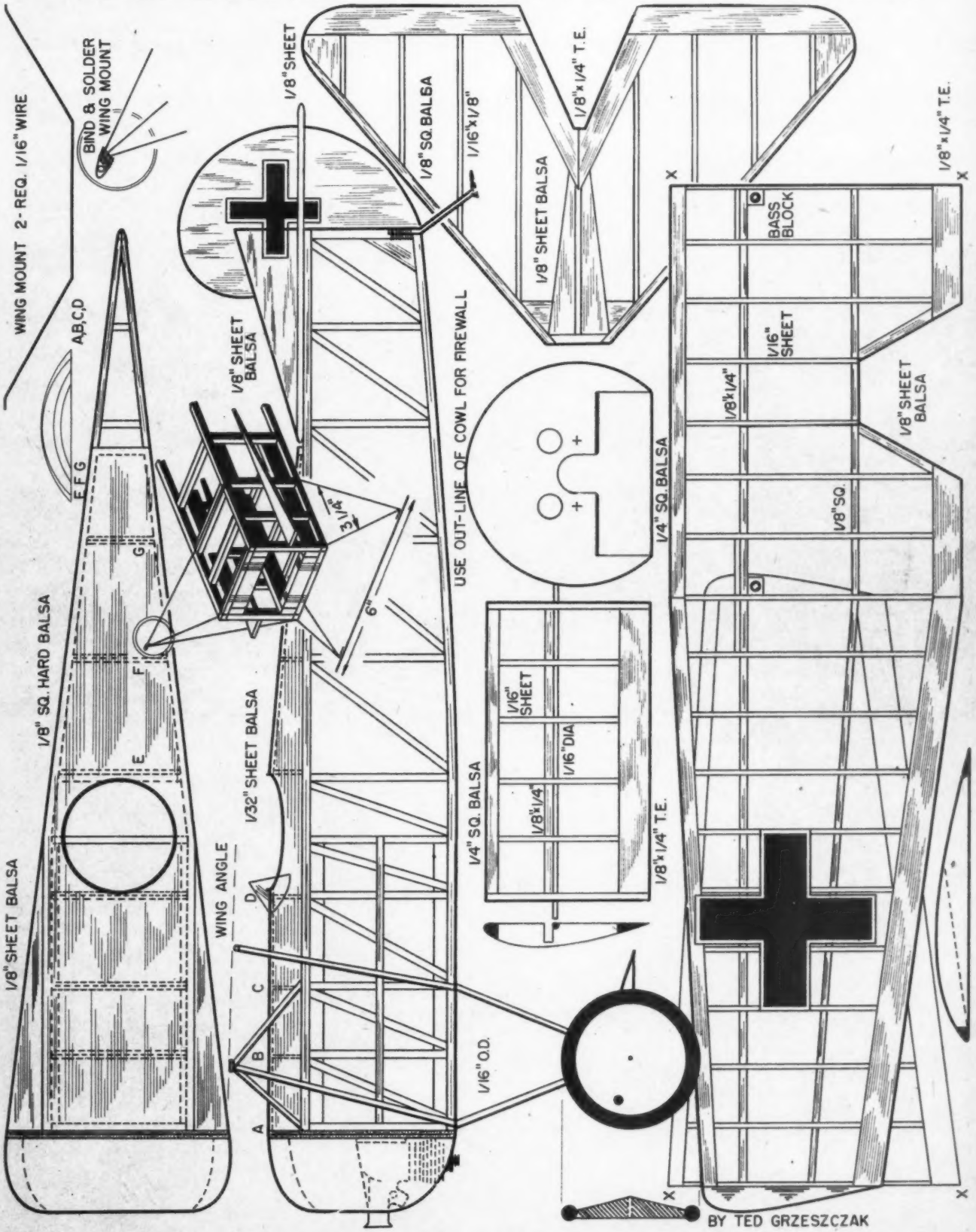
Though a scale model, weight is only seven ounces. It comes from the selection of hard balsa, hardwood wheels turned from maple, and a good color-dope job. The cowl is carved from soft balsa. This is hollowed out to accept the engine and tank. If a flight timer is wanted, this can also be installed ahead of the firewall, keeping all the fuel out of the fuselage.

Fuselage is started with two side frames which are laid out on the plan with the aid of pins to keep the longerons in place. Do not pierce the longerons! Place the pins beside the 1/8" strips. Both sides can be built one atop of the other. This will assure you of two identical sides. When dry, remove from the bench and add the crosspieces; these are cemented in place from the front to the rear, checking to see that the fuselage is square. Add 1/8" x 3/8" fuselage stiffeners in the nose to bind the gear to. The wing mount can be bent and bound in place. Cut the bulkheads from 1/16" sheet balsa and cement them in place. Cut the sheet keels out and cement in place on the nose behind the firewall. The firewall is cut from 1/8" plywood to which the nuts for the engine-mount bolts are fastened. Solder them to brass and cement it to the back of the firewall. The turtle-back can now be covered with 1/32" sheet balsa. The cowl is roughed out and cemented lightly to the firewall. Shape it as shown and, when completed, remove and hollow to wall thickness shown on the plan. Cut the rear post and bend the tail skid to shape and bind in place. Sand the entire fuselage and re-cement all joints well.

Wing ribs are cut out as shown on the plan. Make a rib template of a piece of thin plywood or metal. Mark off the

(*Continued on page* 50)

The Fokker D-8 makes an ideal AA flying scale job. The wing is high—as on a pylon—and troublesome details are remarkably simple. Build right, paint it up, you have one of history's glamour buses.



FULL-SIZE PLANS FOR BOTH "TRAVEL AIR" AND "FLYING RAZOR" AVAILABLE. SEE PAGE 52.

This drawing is one-third of full size.

Conrad goes to a Contest.....

And Demonstrates How not to Win Friends and Influence People – or Win Prizes.

GET PLENTY OF REST
THE NIGHT BEFORE A CONTEST—

GIVE YOUR JET ENGINE AN EXHAUSTIVE
TEST AT 3:00 A.M. TO MAKE SURE
IT'S FUNCTIONING PROPERLY-

WAKE UP THE LOCAL HOBBY SHOP MAN
AT 4:00 A.M. FOR ANOTHER TUBE OF CEMENT

LET 'EM KNOW THE ENTRY FEE IS
EXTREMELY EXORBITANT

CONRAD SNEAKS BY THE PULL TEST, WHY
HIS SHIP WILL PULL 20 G'S ANY 'OLE DAY

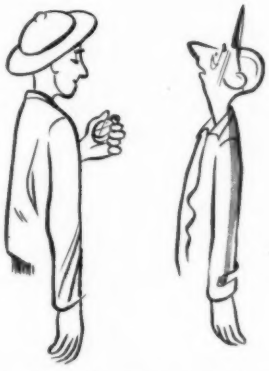
CONNIE TESTS HIS SHIP IN THE
PARKING LOT- THE PUBLIC LOVES IT—

KIDS DO IT - DOGS DO IT — CONNIE DOES TOO —

9-8 PROP? SOME UNLOCKED
TOOL BOX IS BOUND TO HAVE ONE—

IF YOU ENTER SCALE, ALWAYS HAVE ACCURATE THREE VIEWS TO ACCOMPANY YOUR SHIP —

DRINK MALTS AND LOTS OF POP ON A HOT DAY - THIS'LL MAKE YOU DEADLY IN THE SPEED CIRCLE —



EQUIP YOUR SHIP WITH A SURE-FIRE DETHERMALIZER —

ASSIST THE TIMER — HE'LL APPRECIATE IT —

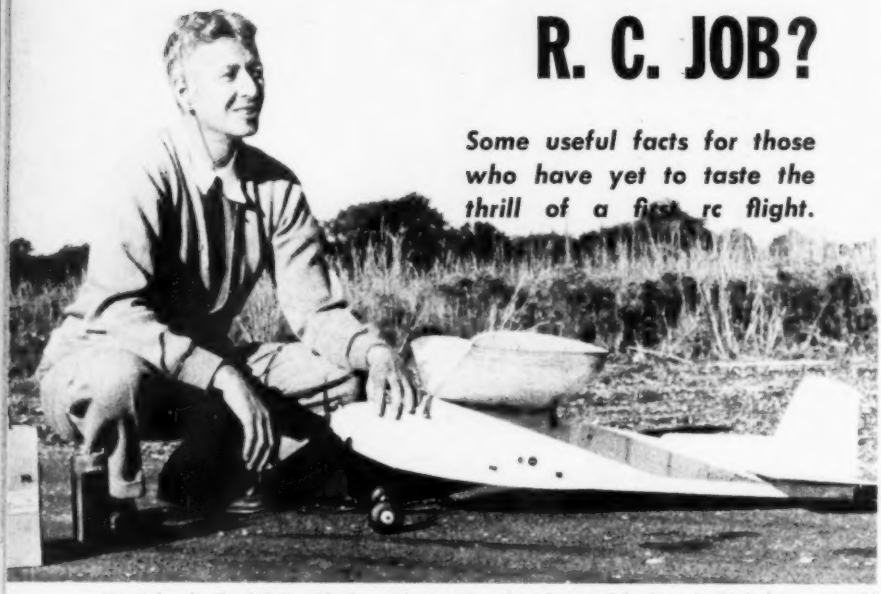
IN A BIG CONTEST, MAKE SURE YOUR ENGINE STARTS WITH THE FIRST FLIP OF THE PROP —

IMPRESS THE SPECTATORS — THEY'VE NEVER SEEN A MODEL BUILDER BEFORE —

BE A "GOOD LOSER" TELL 'EM YOU "WERE ROBBED" BUT JUST WAIT 'TIL NEXT YEAR

PLANNING AN R. C. JOB?

Some useful facts for those who have yet to taste the thrill of a first rc flight.



Joe Dale, the D of D-E, with the author's .09 powered sport job. Span is 54 inches, area 475 sq. in. With hot fuel and any good 8 x 6 prop it is slow, safe flier; is difficult to damage.

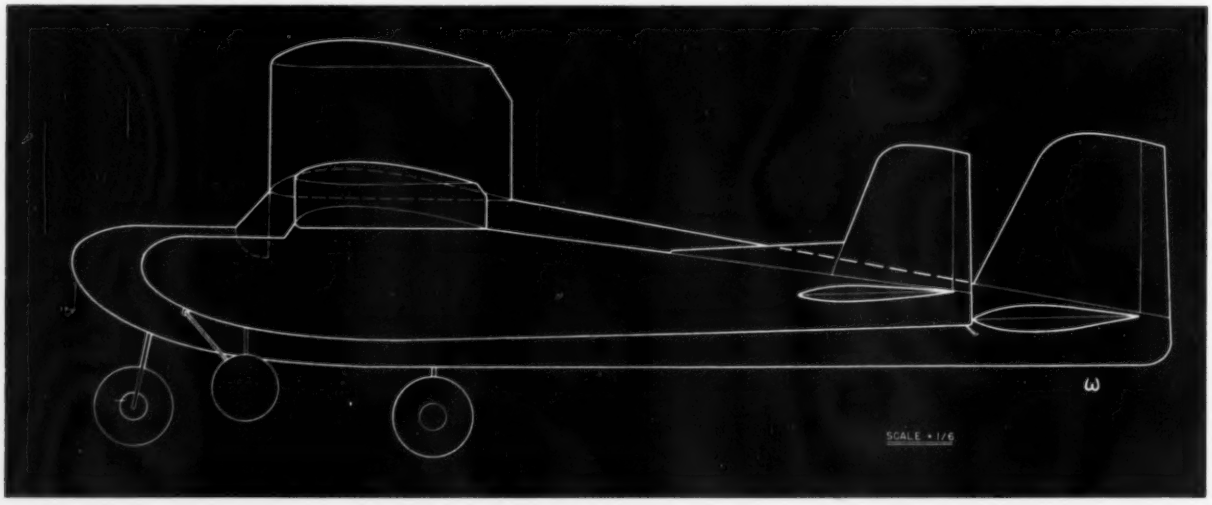
A K & B .24 glow-powered contest machine. Span 68 inches, best performance, 12 x 5 prop. For maximum strength, avoid cabins. Rudder area shown gave violent reaction on 1/4 inch movement.

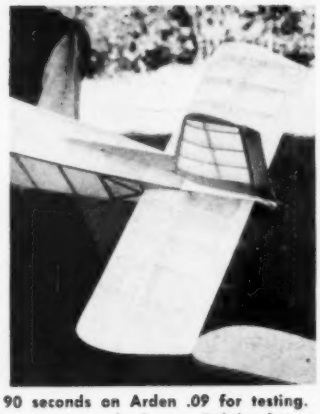
Provide lots of handroom inside radio compartment. Access through top maintains strength.

If, five years ago, radio control was a black art left to the Good brothers, Jim Walker, and a few other magicians, it has become so commonplace today that the decision to give it a go depends mostly on the modeler's ability to make the initial investment. But it is an equally extreme viewpoint to assume that a radio that works makes all the rest like falling off a log.

During the past year the writer has "kept books" on many hundreds of rc flights. Disregarding the effortless looking flying by the veterans, or passable first attempts of modelers cagey, or lucky, enough to avoid the pitfalls, this record tells a sad tale. Crashes on first flights, with damage minor or major—depending on construction—occur in about one of three instances. Loss of control on the first rc test hop occurs nearly 50% of the time. Why?

Wrong power is a big factor, wrong model size another. Put these two wrongs together and the cards are stacked heavily against initial success. Improper trim, or the wrong kind of trim, is a major trouble maker. Warps, believe it or not, rank high where the beginner is concerned. Type of airplane is important. Lack of flying experience looms large. One wit has remarked that radio flying permits you





This .19 clear Maeco tank gave 90 seconds on Arden .09 for testing. Big internal tank. Rudder area was pared down slightly later.

Switches conveniently grouped. One-eight sheeting laid over 1/4" square strips; 1/4" sheet fill nose. Note Aerotrol installation.

to select the site of the crash. It does not.

Here are two examples of washouts on first flights. Mr. A came out with a kit cabin job of about five foot span powered by a McCoy .29. His first power flight on moderate power lost altitude in a left turn and went into deep grass without damage. Without making any correction, he immediately essayed another flight which, in the same left turn, cleared the ground, coming around in a tight 360. The flier applied right rudder. As long as right rudder was held the ship flew straight but the instant he released it, the ship began to wind to the left, the McCoy revving up, and spun in despite a working radio.

Mr. B. had a six-foot cabin job along the line of a Comet *Clipper*. He had a 60 ignition powerplant—and a noticeable wash-in warp in the left panel. This ship started to a climb in a right hand turn due to the warp. To apply left rudder the flier had to go through right, which was the position coming up, and touching right was enough to throw the right-turn happy job into a right spiral from which it would not recover despite left rudder. The writer, despite hundreds of flights over a period of four years, committed four bulls this year.

On a first flight a slight unobserved wash-in warp in the right tip caused a flight consisting of nothing but left turns. Right rudder gave straight flight, left rudder caused spirals when held. Fortunately, when the timer cut-in, the ship glided straight back for about a quarter mile while right rudder was held. Another time an 8-6 prop was substituted for a 9-6 on an Arden .09 and the plane spun in to the right before the control could be operated. Too much right thrust. After substituting a K & B .29 for a .24, the first application of rudder was held for more than a split second, and the ship half snap-rolled and split-essed into the ground. Now how can such erratic performance be guarded against?

Let's begin with the size of airplane. For rudder-only operation, a large airplane is a six-footer, a small one, the three to four-footer. A good average, combining the good points and reducing the bad points of both, is the five-footer. The big plane flies more smoothly, is less jerky on control response, less apt to build up maneuvers until they become violent. It is, however, more easily damaged and, what is important when not flown in open country, can cause damage in collisions with objects on the ground. But a heavily loaded, high-powered, small airplane can be just as dangerous. Experience indicates that a good yardstick for determining size is wing loading. On the low end of the scale, a 12-ounce loading is a floater in medium to large ships, whereas a 20-ounce loaded plane is apt to hit hard when a mistake is made. Sixteen ounces has been found a good compromise of maneuverability and reasonable speeds, but it is highly recommended that the rc beginner stay in the neighborhood of 12 to 14 ounces.

To relate this to size it is handy to know gross weights of typical machines. A six-foot *Rudderbug* weighs 72 ounces. This is a rather lightly, though sturdy, built machine. The writer has had a 78-inch machine (too big and too heavy) come in at 96 ounces, two 5-1/2 footers come in at 72 and 80 ounces, a 56-inch job at 60 ounces (rather heavy) and a 54 at 48 ounces. (Still a trifle robust, since it spun in three times without any damage). In the east, windy weather machines frequently go well beyond 20-ounce loadings, weighing as much as a pound per foot of span, when powered by Mac .19's, but these are tricky machines to fly, apt to spiral in at the slightest provocation—very frequently during the (*Continued on page* 44)

Trouble making ignition was afterwards eliminated from this job. Wing slides off easily; top cabin corners should be ply gusseted.

E. J. Brown displays an ideal contest machine on Arden .19 power. Twin rudders provide some rudder control both in glide, on power.

DOPE... OR

COSTS A LITTLE MORE...BUT THE EXTRA

★ **One-Coat Coverage** (HIGH HIDING POWER)

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★ **Excellent Rubbing Qualities**

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TESTOR CH

. OR MODELERS WHO WANT THE BEST!

ALITY IS WELL WORTH THE EXTRA PENNIES

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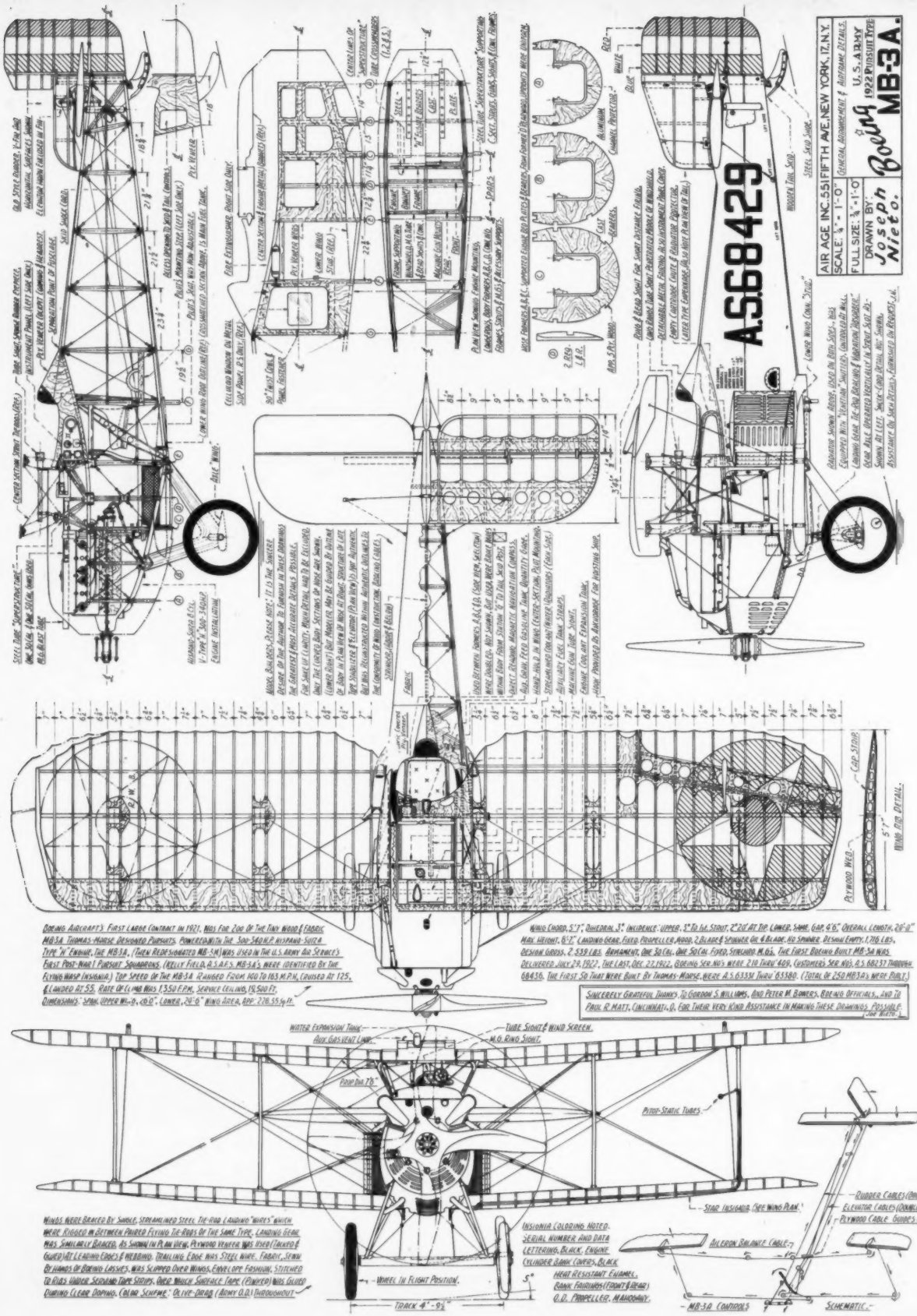
A.S.68429
AIR AGE INC. 551 FIFTH AVE. NEW YORK, 17, N.Y.
SCALE: ¼" - 1'-0"
FULL SIZE: ¾"-1'-0"
DRAWN BY: Joseph Nieto.
GENERAL ARRANGEMENT & AIRFRAME DETAILS.
U.S. ARMY 1922 PURSUIT TYPE
Boeing MB-3A.
Boeing Aircraft's First Large Contract In 1921, Was For 200 Of The Tiny Wood & Fabric MB-3A Thomas-Morse Designed Pursuits, Powered With The 300-340 H.P. Hispano-Suiza Type "H" Engine. The MB-3A, (Then Redesignated MB-3M) Was Used In The U.S. Army Air Service's First Post-War Pursuit Squadrons. (Kelly Field, A.S.A.F.S. MB-3A's Were Identified By The Flying Wasp Insignia.) Top Speed Of The MB-3A Ranged From 160 To 165 M.P.H. Cruised At 125, & Landed At 55. Rate Of Climb Was 1350 F.P.M. Service Ceiling, 19,500 Ft. Dimensions: Span, Upper Wing, 30'0". Lower, 24'6" Wing Area, App. 278.55 Sq. Ft.
Wing Chord, 5'7", Dihedral 3°, Incidence: Upper, 3° To Ln. Stdy., 2°20' At Tip. Lower, Same. Gap, 4'6". Overall Length, 20'-8" Max. Height, 8'3". Landing Gear, Fixed, Propelled, Wood, 2 Blade & Spinner On 6 Blade, No Spinner. Design Empty, 1,716 Lbs. Design Gross, 2,539 Lbs. Armament, One 30 Cal. One 50 Cal. Fixed, Synchro. M.G.s. The First Boeing Built MB-3A Was Delivered July 29, 1922. The Last, Dec. 27, 1922. Boeing Ser. No's Were 210 Thru' 409. Customers Ser. No's, A.S. 68237 Through 68436. The First 50 That Were Built By Thomas-Morse, Were A.S. 63334 Thru' 63380. (Total Of 250 MB-3A's Were Built.)
Sincerely Grateful Thanks To Gordon S. Williams, And Peter M. Bowers, Boeing Officials, And To Paul R. Matt, Cincinnati, O. For Their Very Kind Assistance In Making These Drawings Possible.
Joe Nieto.
Wings Were Braced By Single, Streamlined Steel Tie-Rod Landing "Wires" Which Were Rigged In Between Paired Flying Tie-Rods Of The Same Type. Landing Gear Was Similarly Braced. As Shown In Plan View, Plywood Veneer Was Used Tacked & Glued At Leading Edges & Rib Bands. Trailing Edge Was Steel Wire. Fabric, Sewn By Hands Of Boeing Lasses, Was Slipped Over Wings, Envelope Fashion, Stitched To Ribs Under Surface Tape Strips, Over Which Surface Tape (Pinked) Was Glued During Clear Doping. (Olive-Drab (Army O.D.) Throughout.
Insignia Coloring Noted. Serial Number And Data Lettering, Black. Engine Cylinder Bank Covers, Black. Heat Resistant Enamel. Rank Fairings (Front & Rear) O.D. Propeller, Mahogany.
Wheel In Flight Position.
Track 4'-9½"
Water Expansion Tank
Aux. Gasvent Line
Tube Sight & Wind Screen
M.G. Ring Sight
Prop. Dia. 7'0"
Pitot-Static Tubes
Stab. Insignia (See Wing Plan.)
Rudder Cables (Doubled)
Elevator Cables (Doubled)
Plywood Cable Guides Used
Aileron Balance Cable
MB-3A Controls Schematic.

The Thomas Morse MB-3A

by Robert C. Hare

Boeing's first large contract in 1921 was for 200 of tiny, wood-and-fabric *MB-3A's*, powered by 300 hp Wright Hispano liquid-cooled engine.

PART TWO

This was the first of the glamour pursuits and first of the mass produced post-war airplanes that revitalized the aviation industry after the great let-down of late 1918. Was in service until late twenties in Air Corps.

Below—Boeing removed the radiators from center section, then used this space for added fuel. Odd fin was a Boeing characteristic.

From famine in 1917 to feast in 1918—that was the story of the American aviation industry during World War I. During the 18 months of the war, a production miracle had been wrought. From 55 serviceable aircraft to about 10,000 types of all descriptions was a truly amazing record for the infant aircraft industry.

With the sudden coming of peace and cancellation of orders for thousands more aircraft and engines, the wheels of America's newest industry stopped with a groan that could be heard the length and breadth of the land. Hastily built factories, thousands of trained workmen, millions of dollars invested in production machinery from coast to coast—what was to become of it all?

That was the question facing our aircraft manufacturers at the end of 1918. The order was given for the burning of aircraft by the thousands. It was cheaper to do that than to ship them home, because there were more at home than could possibly be used by the military in the forseeable future. Aircraft, engines, materials everywhere, available at a dime on the dollar—that was the manufacturers' lament. Overnight, America's biggest military asset—a sound air industry—had become its biggest liability.

Out of this nightmare came a semblance of order early in 1919. Manufacturers were allowed to buy back from the government quantities of their own aircraft at a fraction of the original selling price. These craft were remodeled into private or commercial machines, which were again sold to civilian enterprises. The purpose was to keep factories going, even on a reduced scale until some demand could be created for aircraft designed for peacetime uses.

Up to this point, manufacturers had produced only highly specialized military models, constructed to European standards and requirements. American standards were quickly developed and our requirements were established. The Army and Navy, with greatly curtailed funds, did their best to help keep the aircrafters above water. Orders were given to some firms for remodeling existing types, or remodeling them for new military duties.

Generally, the military parcelled out modification jobs to those companies least able to finance new type construction. To those firms which were able to carry on developmental work and had the experienced staffs necessary, contracts for new designs—especially racing types which could serve as test beds for new developments—were let. And for those companies "in between," it opened bidding for substantial contracts covering construction of existing accepted types in "large" quantities. The net result of this policy was the preservation of an active aircraft industry in America, although on a fairly limited scale.

Among the latter category of aircraft companies was Boeing, of Seattle. This organization had its beginnings, in spirit at least, in the summer of 1915, when William E. Boeing became interested in aviation, attended the Glenn L. Martin school of aviation in California. Upon completing his pilot's course early in 1916, he bought a Martin model *T.A.*, which he took to Seattle (*Continued on page* 42)

official news

by Russ Nichols and Carl Wheeley

America Sets FAI Jet Speed Record • Nominating Method Debated • FCC Explains the Law • National Records • Aussie Nats • Contest Calendar

Schmid, of Switzerland, and model that won first at International Championship Free Flight Gas meet held recently in Paris, France.

Dave Kneeland, another member of our Wakefield team, prepares 7th place winning .09 job. The .09's have pep; yet small for travel.

▶ NOMINATING METHODS DEBATED. From several sources the cry has been heard that the present method of nominating candidates is not as it should be. Among these is the *American Airlines Gas Model Club*, Cleveland, Ohio, whose members believe that the nominating committee should be selected by members of their district through petitions signed and mailed to the chairman of the nominating committee prior to the meeting of that committee. Dick Everett, San Diego, Calif., is another who feels the nominating committee should be elected instead of having the vice president of each district appoint members, for the present system *could* cause a vicious circle. Dick says, "Now is the time, I hope, to eliminate the Russian way of controlling things."

Speaking of vicious circles, if the nominating committee were elected, who would nominate the candidates? Headquarters would like to hear your thoughts on the subject. Send your ideas to the vice president in your district or to AMA.

The election of 1952 AMA Officers and Contest Board Members is now well underway. If what is planned at the time this was written works out, a ballot will be in the hands of each of you license holders . . . something that has never been accomplished before! Exercise your privilege to vote. If you haven't already mailed your completed ballot, do it now! If you don't have a ballot, write for one. The address is: AMA, 1025 Connecticut Ave., Washington 6, D. C.

BAKER'S F.A.I. JET RECORD ACCEPTED. We are happy to report that the Federation Aeronautique Internationale, worldwide governing body for sporting aviation with headquarters in Paris, France, has accepted as official the flight of 206.598 km/h. (128.374 mph) by Thomas P. Baker's jet-powered control-line speed model as a World "Class" Record. Tommy's record run on August 26th was a special added attraction to Plymouth's Fifth Internationals in Detroit.

Only other F.A.I. model record held by the U. S. at present is the World and World "Class" Gas Powered Speed In A Straight Line Record of 129.769 km/h. (80.634 mph) established by Eugene Stiles at Alameda, Calif., on July 20, 1949.

MORE NEW INTERNATIONAL RECORDS. The F.A.I. information circular number 56 lists two new World "Class" model records:

Flying Wing Gas Model, Distance—33.669 km. (20.921 miles). Record established by M. Nicolaj Trountchenkov (Russia) on July 1, 1951, using a motor of 1.93 cc. displacement.

Orthodox Gas Models, Control Line Speed, Class II (maximum displacement of .305 cu. ins. or 2.5 cc.)—144.903 km/h. (90.038 mph). Record established by M. Zdenek Husicka (Czechoslovakia) on July 29, 1951, using a motor of 2.413 cc. displacement.

F.C.C. CLARIFIES RULING FOR RC FLYERS. "The Commission's representatives who observed the activities at the model aircraft meet at Andrews Field, on June 22, 1951, have transmitted to this office a report concerning certain radio practices which appear to constitute unlicensed operation in violation of the terms of the Communications Act of 1934, as amended," writes J. T. Slowie, Secretary of the Federal Communications Commission. "In particular, we refer to the misuse of a licensed amateur station by unlicensed personnel for the purpose of controlling model aircraft in flight.

"Apparently," continues Mr. Slowie, "there was some belief that this practice was (*Continued on page* 40)

NEVER BEFORE

HAVE YOU SEEN A DELUXE HOBBY CATALOG LIKE THIS BEFORE!

128 PAGES fully illustrated 9" by 6" two-color catalog

Not just a listing of items . . . but with hundreds and hundreds of illustrations and descriptions. Over 10,000 items including over 100 engines, over 300 u-control and free-flight gas model planes, just hundreds and hundreds of rubber-powered planes, boats, cars, solids, plastic models, gliders, race cars, jet models, radio control, and lots of others.

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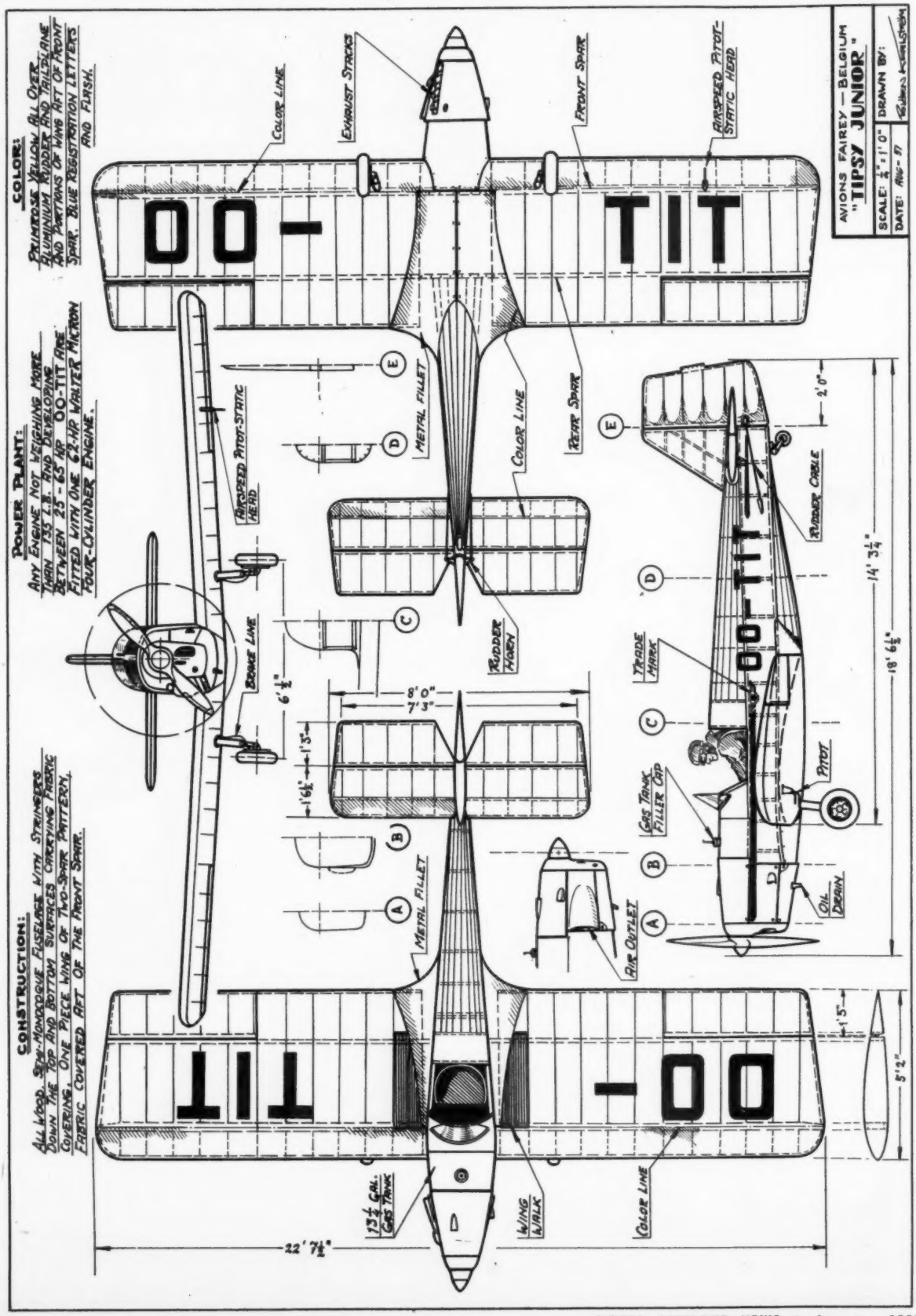
Planes Worth Modeling — TIPSY JUNIOR



RICH & LEAN

It takes all kinds of opinions to make the modeling world go round.

Would Make His Engine

When ignition troubles were the easiest way to get a model engine running, you published the plans of a really simple power plant: Louis Garami's *Simplex 25* (March-April 1947). Now that glow-plugs are current, I think it should be interesting to present plans for a *super*-simple small, glow-plug motor.

Also, post-war facilities perhaps have made it possible for many model builders to buy a small lathe.

Brazilian model builder
Rio de Janeiro, Brazil

Bless the Prefabs

Read Bob Hatschek's anti-prefabrication essay with interest and concern. While we of the *Long Island Gas Monkeys* are aware of Bob's prowess as a builder and competitor, I for one say "bless prefabrication." It is a blessing to those of us who have little time to build and less ability to build well, and yet from our pockets pass many thousands of hard earned dollars annually which greatly aid in keeping the industry alive and solvent.

(This is my opinion and not that of the *L. I. Gas Monkeys*).

J. Undreiner
Jamaica, New York

Zeke Happy

Enclosed you will find a picture of my brother and myself. As you can see, both the planes that are shown are *Zeeks*.

Both the planes that are shown are record holders. The plane on the right, the one held by my brother, holds at this time the Junior Class A record of 28 min. 36 sec. and 2 tenths. The plane on the left, held by myself, holds the Class A Senior record of 30:00 min.

I have always read the M.A.N. ever since I have been building gas models. I prefer it to the other magazines and as far as I am concerned, it is the best model magazine put out.

Homer Werts
Oildale, California

Rubber Is Best

We have progressed so very little in the past ten years in free flight gas, that I sometimes wonder just what it will be in the next ten years. I think the only thing that has really progressed in the gas, are the engine manufacturers, who have done wonders in the past ten years. They have progressed so much that very few of today's planes can handle all the power they put out. This is the case I see in the Half-A case . . . These litt'e rascals pack so much power that they're really tough to tame for the beginner to handle, so he piles it up the first time out with it.

My solution lies in good old rubber which I feel is King of all free flight, bar none. Here are my reasons in point fashion:

1) They are the cheapest means of getting powered flights out of the rest (I mean motive power made up inside the ship).

2) They can be adjusted much easier due to their choice of power run and amount that they present.

3) They can make beautiful kits, which anyone who can read can build with no previous experience.

4) They will teach the basic fundamentals, which all should know before even trying Half-A jobs.

These four points are enough to let you know how rubber can help, but it looks grim for it to succeed, for Half-A . . . has the big edge right now.

Carl L. Stokes, Jr.
Seattle 6, Washington

Wants Scale Event

Scale will always be with us . . . let's compete with it . . . The contest calendar is getting bulky but there are lots of things that have had their day. Indoor stuff, for instance; there is a certain select group that flies indoor stuff but I don't believe there are enough of them to rate a National event. Hold the indoor Nationals in January, if there are enough of them and by doing that, it may go back to the old system where you flew outdoors in the summer and indoors in the winter.

Tom Heneby, AMC, USN
Patuxent River, Maryland

Look What We Started!

Perhaps the editors would like to know . . . the part M.A.N. played in a friendship that has covered nearly half the earth and lasted ten years. In 1939 or 1940, you published a letter from Ray Smith of St. Quentin, Broomfield Rd., Chelmsford, Essex, England. The letter asked for a "pen pal" with interests in model airplanes, photograph and magazine swapping. I answered, and we began a correspondence that has lasted ever since. In 1941 Ray entered the Royal Air Force and his letters came from "somewhere in England." Late in 1942 he was sent to Canada. Only a few months later Ray was transferred to the Naval Air Station at Grosse Isle, Michigan—a suburb of Detroit. The following three or four months were filled with busy week ends, in which Ray became an active member of our household and my circle of friends. My entrance into the service required that we revert to correspondence again; however, Ray was able to spend two furloughs with my parents during his stay in Michigan. He then returned to England and spent many months in active duty—flying mostly over Europe, but with occasional trips to places as far as India. We both returned to civilian life in 1946, and our correspondence thrived as Ray became the manager of a model airplane shop in Colchester. During the summer of 1950, I was fortunate enough to visit Europe—and, of course, England. So, after eight ears, we met again! Except during the war years, Ray has sent English magazines and kits, and I have returned with American supplies and copies of M.A.N. Thus, you see, how your magazine has played a very important role in the lives of two model airplane builders.

Richard R. Crandall
Detroit 4, Michigan

Look, Ma, Bare Hands

We modelers who scale up Nieto's and Wylam's plans and build our models directly off the board hold nothing but contempt for the stupid, lazy people who call themselves modelers just because they can glue a few formed and finished parts together.

I like to turn out a W.W.I. ship from a wilderness of sticks, wire, and tubing. I *love* to turn out a finished product with nothing but my tools and hands.

Incidentally, I'm all for free flight scale gas. What could liven up a contest more than the sight of Nieuports, Fokkers, Rumplers, and Salmsons, R.O.G'ing and wheeling around the ether? Hmmmm?

Don J. Lanoue
Spokane 16, Washington

HEY KIDS - It's GUILLOW'S for winners!

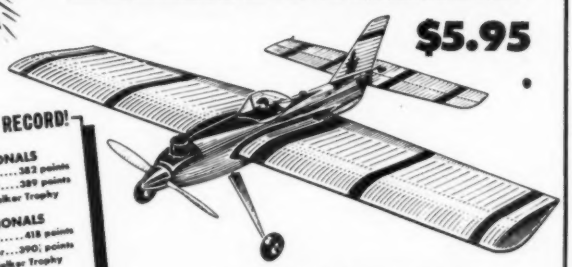
America's leading stunt plane!

NATIONAL STUNT CHAMPION 1951 1950

TRIXTER

BARNSTORMER

$5.95



Check THE RECORD!

1951 NATIONALS
Open event winner.....382 points
Senior event winner.....389 points
Awarded Jim Walker Trophy

1950 NATIONALS
Open event winner.....418 points
Senior event winner...390; points
Awarded Jim Walker Trophy

designed by *Lou Andrews*

1950 NATIONAL OPEN STUNT CHAMPION
1948 INTERNATIONAL OPEN STUNT CHAMPION

BARNSTORMER SPECIFICATIONS

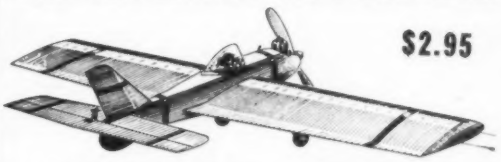
Wing Span	47 in.	Weight	approx. 26 oz.
Wing area	470 sq. in.	Speed	60 to 75 M.P.H.
Length	30⅞ in.	Engine	.23 to .35 disp.

ALL PARTS COMPLETELY PRE-FABRICATED

First in '50...now first in '51

Baby BARNSTORMER

CLASS 1/2A CONTROL LINE STUNT MODEL



$2.95

A JUNIOR VERSION OF THE STUNT CHAMPION BARNSTORMER

The ideal stunt ship for ½A enthusiasts. Designed and tested by Lou Andrews, the "Baby" will do all the stunt patterns in the book — a real feat for a ship of this size. Wonderfully easy to build because the parts are accurately die-cut and ready for assembly. Recent tests of the Baby Barnstormer have been conducted by a staff member of Model Airplane News and the stunt performance of this ship was warmly endorsed in a feature article in the August issue.

SPECIFICATIONS

Wing Span	33½ in.
Wing Area	118 sq. in.
Length	18⅝ in.
Weight	approx. 4½ oz.
Engine	.035 to .049 disp.

Another fine TRIXTER gas model

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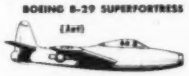

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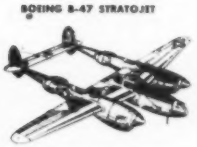

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GUILLOW'S **MODEL AIRCRAFT**

AIR YOUTH TODAY. AIR LEADERS TOMORROW

Travel Air

(*Continued from page 18*)

bent to keep elevator in neutral position. Then cement stabilizer in place. Vertical fin now is cemented in place and leading edge of rudder post is beveled to give about 15° offset and is cemented to fin. All top stringers are cemented into place.

Cut two rib patterns full size 1/8" medium hard balsa and cement to formers F3B, F4, and to bottom corner stringers. Two pieces of 1/8" aluminum tubing are pushed through holes in these ribs and fuselage and are left to stick out past ribs on both sides about 3/16". Placement of these ribs must be accurate, using dimensions shown in sketch. Make two metal lower nut-plates using bright tin and brass nuts. These are not mounted until the cowling has been made. Also make two upper nut-plates. Nuts to hold the engine in place should be soldered to a piece of tin which should be secured to the bottom of mounts with small wood screws. This allows engine to be removed with only top cowling removed.

Aluminum cowling now can be made from full-size drawings. After cowlings have been cut out and edges sanded smooth, they are laid aside until wings are finished.

The louvers are put in by cutting slots along rear edge of louvers with a jeweler's saw, its blades as thin as can be obtained. Make up three hard-wood blocks as shown, and carefully form each louver by inserting a forming block or punch into sawed slot while the cowling is laid over the bottom forming blocks and tapped into place.

All of the wing ribs, with the exception of root ribs of lower wing, are of soft balsa. Make ribs as shown on side view of fuselage with a cut-out for 1/4 x 1/8" spar and two 1/16 x 1" trailing edges. Leading edges of wings of medium hard balsa 1/2 x 11/16". Cut from 1/2 x 3/4" wood if necessary.

Space ribs as shown but don't cement angle ribs where "N" struts are placed. Top wing is started by cutting leading edges of center section and two outer panels to give proper dihedral under each wingtip. Leading edges in top wing are held together by two dihedral joiners of 1/16 plywood. After leading edge of top wing is dry, pin face or front side down to a flat board and measure off and mark positions of each rib. The ribs are cemented in their proper places with exception of ribs holding "N" struts. Before ribs have dried thoroughly, put on trailing edges, assemble tips. Cement the 1/2 ribs to both sides of tips and put in small reinforcing pieces for tip.

Now for lower wings. Take angle of lower root tip from plans and cut leading edge to this angle. Assemble all ribs in place including tip, 1/2 ribs of the tip, and tip reinforcements. Do not cement ribs where the "N" struts are attached. Mark position for these ribs. Cut 1/8" thick plywood sockets for "N" struts and lay aside. Next cut from 1/8" plywood "V" struts and single struts which attach center section of top wing to fuselage. Also cut outer wing panel "N" struts. The tenons which project from ends of "N" struts and center struts should be cut accurately. Dimensions can be checked by fitting them into 1/16 strut plates on top of fuselage and into 1/8" plywood sockets. Sand struts smooth and make rounded edges.

Next comes trial assembly of wings to fuselage. Slip each lower wing panel onto aluminum tubing pins which protrude from the root rib on lower part of fuselage. Place a box or other support under each wingtip to hold it to proper angle of dihedral. Insert center section "V" struts and single struts into strut plates on top of the fuselage and place top wing over them, bracing tip ends of the top wing by placing it on boxes, or by pinning pieces of balsa to leading and trailing edges of lower wings. Carefully line up the top wing until it is square with the fuselage.

Coat center-section sockets with cement and place between four ribs which were left unglued in center section of top wing. When these have been aligned to top ends of "V" struts and single struts, top wing should be removed and any cement which has squeezed into sockets removed to keep struts from being fastened at this point. This procedure

will set correct angle for strut mounting ribs. After top strut mounting ribs have dried, replace wing on top of struts and follow same procedure to align strut mounting ribs for "N" struts in both top wing and lower wing panels. After these angle ribs have been set in proper position and have dried, the wings can be removed. Small scrap pieces of balsa should be cemented around wing strut mounting locations.

One ounce weight, clay, solder or scrap metal, should be placed in small box on top of the outer wingtip. This should be cemented securely. It insures your plane holding out on lines during overhead maneuvers. Leading edges of wing now are carved to shape and all other wing struts sanded and given one coat of clear dope. After dope has dried, sand with fine sandpaper. Wing panels are ready for covering.

After fuselage has been covered, cowls are made; cockpit cowls are assembled to airplane first with straight pins, holding them to fuselage with cement inside of cowl anchoring the pins. After cowl and plane is painted, windshields are cut and small holes drilled as shown on plans.

Neoprene tubing was slit lengthwise along one side with a razor blade and cemented to edges of cockpits. Cowling was laced on with .010 brass wire, starting at center line of cowling and working both ways. This is a double lacing. The wire is laced under and then over, and the second wire is laced over and then under. Lower engine cowling is fitted into place and mounting holes are transferred to top deck. Mounting nut plates then are fastened under top deck in line with these holes. A small nut-plate is placed back of former one to hold the bent-around tabs of bottom cowling. Upper cowling is put in place, using upper cowling anchor plates. Nose block is carved and given several coats of sanding sealer; two holes cut as shown. These holes should be reinforced with wire hairpins for two 4-40 brass machine screws used to hold nose block. Run screws through bentover lugs of lower cowl.

Wings can be cemented to fuselage, starting with lower panels which should be supported at the tips with proper height blocks to get right dihedral. "N" struts are cemented into lower panels and a liberal amount of cement placed in sockets of top wing, and assembled on to all of struts.

Lead-out wires are run through two wire rings which are secured to inboard "N" strut as shown. This automatically will give leadout lines a slant-back of 1-1/2". After cement has dried, proceed with wire bracing; .010 strengthened flying wire was used.

Center panel is braced by running a wire from top of single struts to point on top of fuselage at rear edge of front cockpit. Front of center panel is braced by wires running from top of "V" struts to top of fuselage at point back of top front motor cowling. These fuselage points are made by inserting steel wire hairpins through cowling and into top formers, then cemented in place. Wings are braced by running wires from leading edges of lower wing to top of single center section struts and from leading edge of bottom wing near fuselage, to top rear point of "N" strut. Small struts of flattened 1/8" aluminum tube are placed from leading edge of bottom wing to lower rear edge of top wing. These simulate aileron actuator rods on prototype. Bracing wires can be placed between fin and elevator stabilizer and bottom of fuselage. The point where these wires attach should be reinforced by taking straight pins and bending hair pins from them after head has been cut off. Then bend ends of hair pins down 1/8" and cement them to spar of stabilizer and leading, trailing edge of fin.

Wings are covered with silk or *Silkspan*. Wet material before applying. Tail of original model was covered with silk; all other parts with paper. One coat of clear dope was applied, then three of yellow and two of red were sprayed on. Decals of the *Travel Air* name can be obtained from Hunt Engineering Company, 321 Martin Road, Union, New Jersey. All number decals are applied and entire airplane is given a coat of Aerogloss clear reduced 50% with Aero Gloss thinner. These are sprayed on.

A 10 x 6" Power Prop is used. It has been maneuvered on 40' lines. THE END

AMA News

(Continued from page 32)

legal inasmuch as the amateur licensee was present and turned the station on and off and identified it by giving the call sign. The station was, in fact, operated by unlicensed persons on the theory that it was under the control of the licensee. Such operation is considered by the Commission to be unlicensed and unlawful surrender of control on the part of the licensee of the amateur station. In this connection," the F.C.C. points out, "it is possible that there has been some misunderstanding of Section 12.28 of the Commission's Rules and Regulations. This section does specify an exception to the requirement for operator license, but only in respect to the use of telephony under certain conditions."

The F.C.C. also feels that the section of the AMA Radio Control Flight Regulations dealing with license requirements is very indefinite and perhaps misleading. They suggest that this section be amended to make the requirements clear. Walt Good, AMA Radio Control Committee Chairman, says that the ruling referred to is the one requiring all radio equipment and operation to conform with the regulations of the Federal Communications Commission and further, that the amateur's license must be present. Now that the Citizen's Radio Band is available for model flying, the regulation possibly should be re-worded so that there would be no doubt that use of the Citizen's Radio Band is permitted.

NATIONAL AMA RECORDS ESTABLISHED. *Outdoor Hand-Launched Gliders, Class A, Open*—15:26.2. Record established by Ray Matthews, Oklahoma City, Okla., on July 25, 1951, using an original design. Model features zero-zero incidence in wing and tail, 17-5/8" fuselage with wing leading edge 3-3/4" from front, 16-1/2" wing span with four inches center chord and semi-eliptical outlines, and stabilizer with a span of 6-3/4" x 2-5/8" center chord and semi-eliptical outlines. The stabilizer is tilted to give the desired turn.

Unlimited Rubber Models, Junior—11:19.2. Record established by James C. Watson, Ft. Des Moines, Iowa, on August 24, using a model designed by R. F. Watson. Named *Long John*, the model has a fuselage length of 61-1/8" (box cross-section), and a projected wing span of 54-5/8". Wing chord is 5-5/8" which with the rectangular wing plan and small curved tips gives a projected area of 300 square inches. Wing airfoil is an Eiffel 400 and stabilizer is Clark Y. Elevator is rectangular with a 30" span and four inch chord. Twin rudders are mounted on the tips. The prop was carved from a block 2 x 3 x 18" and power was supplied by 22 strands of rubber 60" in length.

Free Flight Gas Models, Class A, Open—30:00.0. Record established by Kenneth F. Fitch, Garden City, N. Y., on September 19, 1951, using an original design named *The Educated Senior*. Weighing 28 ounces with a wing area of 390 square inches and a 33.8 per cent stabilizer, the model was powered by a *Torp .19* and a K & B 9D x 5P propeller.

Free Flight Gas Models, Class B, Senior—28:02.0. Record established by Homer Werts, Oildale, Calif., on September 2, 1951, with a scaled-up *Zeek* powered by a *Torp. 24*. For comparison purposes, the wing span has been increased to 65" giving it a wing area of 575 square inches. The model was hand-launched.

Gas Models, Control Line Speed, Class A, Junior—116.38 mph. Record established by Sonny Wheeler, Roanoke, Va., on September 16, 1951, using a *Hell Razor* powered by a Hornet *.19*. Prop used was a 6D x 8P Tornado.

Gas Models, Control Line Speed, Class D, Junior—154.44 mph. Record established by William C. (Billy) Weissbrodt, Milwaukee, Wisc., on September 22, 1951, using a McCoy *.60* powered *Hell Razor*. Prop used was a 8-1/2D x 11P.

Jet Models Control Line Speed, Junior—138.62 mph. Record established by Kenneth Mattingly, Hialeah, Fla., on August 23, 1951, using an original design powered by a Dyna-Jet. Ken's model has a pod and boom type fuselage with the nose extending only about an inch in front of the engine. The wing is rectangular with 16" span and three inch

chord. The model weighed in at 25-1/2 ounces.

Jet Models, Control Line Speed, Senior—157.69 mph. Record established by Herbert L. Davis, Birmingham, Ala., on June 10, 1951, using an original design. The nose of Herbert's model, which was hollowed out from balsa for the tank, has a circular cross-section with a diameter of 1-1/2". Fuselage length is 24-1/2". The wing is a tapered lay-out with 3-1/2" center chord, 1-1/2" tip chord, and 16" span. The model weighed only 20 ounces.

NATIONAL RECORDS PENDING. *Unlimited Rubber Models, Open*—18:00.0. Flights made by James Onofri, Morrisville, Pa., on September 9, 1951.

Gas Models, Control Line Speed, Class A, Senior—121.25 mph. Flights made by Charles E. LeBoeuf, Dayton, Ohio, on August 25, 1951, using an original design powered by a *Torp .19* with a 7D x 8P Tornado prop. Model weighed 16 ounces.

AUSTRALIAN NATS TO BE HELD DECEMBER 29 TO JANUARY 2. The Fifth Australian National Model Aircraft Championships are to be conducted by the Model Aeronautical Association of New South Wales, and AMA members have been invited to attend. As a gesture of cooperation and friendship, arrangements have been made by the M.A.A. of N.S.W. to pay the expenses of a limited number of U. S. competitors while in Australia for a fortnight, if they are able to attend. Proxy entries may be made also.

A wide variety of events are planned for the Australian Nats including indoor and outdoor rubber, rubber flying scale, free flight gas flying scale, free flight gas, outdoor hand-launched glider, jetex, towline glider, radio control, PAA Load, control line speed and flying scale, stunt, and team racing. Many of these categories are broken down into separate classes, giving a total of 31 separate events.

Every now and then we hear of someone abusing the team entry rule. To set it straight once and for all, we repeat it here:

Where two or more license-holders enter competition as a team, all shall have taken active part in the construction of the model(s). One team member is to be designated to fly the model(s); however, entry should be made in the age group of the oldest team member and in the name of the team, with its individual members' names listed, and all awards given or records established must be made in the name of the team. No license-holder shall be permitted to enter an event both as an individual and as a team member.

SANCTIONED CONTESTS

DECEMBER

2—*Taft, Calif.* Taft Model Airplane Club Record Trials for FFG. Francis Stewart, Contest Director, 900-21, Bakersfield, Calif.

9—*Bakersfield, Calif.* Bakersfield Record Trials for FFG. Francis Stewart, C.D., 900-21, Bakersfield.

16—*Visalia, Calif.* Visalia Model Airplane Association Record Trials for FFG. Emory O. Hull, Jr., C.D., P. O. Box 284, Ivanhoe, Calif.

28, 29 & 30—*Orlando, Fla.* Second Tangerine Internationals for OR, TLG, OHLG, FFG, Rubber Fling Scale, RC, CL, CLS, CLFS, and TR. For information, address Tangerine Internationals, P. O. Box 123, Orlando.

JUNE, 1952

8—*Lexington, Nebr.* Class AA Nebraska State Stunt Contest. Donald R. Ross, C.D., Lexington.

AUGUST, 1952

3—*Waynesboro, Pa.* Waynesboro Exchange Club Meet. Pending.

SEPTEMBER, 1952

1—*Far Hills, N. J.* Bedminster-Far Hills Lions Club 5th Annual Control Line Meet. Pending.

21—*Waynesboro, Pa.* Waynesboro Exchange Club Meet. Pending.

Key to listing of events: FFG—Free Flight Gas; CL—Control Line Speed; OR—Outdoor Rubber; TLG—Towline Glider; IR—Indoor Rubber; OHLG—Outdoor Hand-Launched Glider; IHLG—Indoor Hand-Launched Glider; CLS—Control Line Precision (Stunt); CLFS—Control Line Flying Scale; TR—Team Racing; RC—Radio Control. THE END

MB-3A

(*Continued from page* 31)

with him. In the belief he could build a better machine, Boeing interested a group of sportsmen and technicians in the project of building a better plane. Because it was eventually built on the shores of Lake Union, near the center of Seattle, this craft was a seaplane. Its first flight was on Novemer 15, 1916.

This aircraft was an inherently stable biplane, conventional in appearance, but with balanced elevators which eliminated the horizontal stabilizer. Its performance was excellent, and its unusual maneuverability was unheard of in a ship of its class.

Boeing and his associates formed the Pacific Aero Products Company in the summer of 1916, reformed it as the Boeing Airplane Company in 1917. Army and Navy interest in this new Boeing plane resulted in sample orders in the form of model *E. A.*, 50 going to the Navy early in 1918. Small orders for model *C-1-F* were followed, in the summer of 1918, by a Navy order for a substantial number of *HS2-L* flying boats. Boeing was permitted to build only 25, finishing the order early in 1919.

During 1920 and 1921, Boeing constructed improved model seaplanes for commercial users, developed a highly successful flying boat for mail, passenger and sporting purposes. The company also manufactured sea sleds and developed one model large enough to carry an airplane. Although Boeing, like so many others, was having a rough time of it, the firm's reputation was made as a constructor of fine aircraft. The phrase "Boeing-built" was synonymous with the highest quality.

During 1921, the Army announced that a contract to build 200 Thomas-Morse *MB-3A* pursuits was open for bid. Minimum bid was for 50 ships, in the hope that as many builders as possible would be able to get a piece of the job. And bid they did. As bidders were investigated and eliminated, the field narrowed down to about two or three builders, including Boeing. With its fine plant at Seattle, an unbeatable reputation for fine workmanship, and the most attractive bid for the entire 200 *MB-3As*, Boeing was awarded the contract, with deliveries to begin in July, 1922. This was the juiciest plum offered to the aircraft industry in the post W. W. I period. It was to establish without any shadow of a doubt that the Boeing organization really knew how to build airplanes.

The Boeing-built Thomas Morse *MB-3A* was a design resulting from improvements made in the original model *MB-3*, both by the Thomas Morse organization and the Engineering Division of the Air Service. These changes, plus structural method improvements made by Boeing, gave an airplane slower but with much better all around performance characteristics than found in the prototype.

Except for tail design alterations and placement of the radiators in the production models, changes were relatively small. They all added up, however, to a healthy plus for the airplane.

Where the nose between cylinder banks of the Wright model *H* engine was rounded, the production nose in this area was covered by cowling straight across the banks, with a flat facing in front. Under this cowling a .50 caliber machine gun was placed on the left, and a .30 caliber on the right, blast tubes coming to the facing in the latter and projecting through in the former. Fairing of the forward edge of the cylinder banks was enlarged, and the aft bank fairing was brought well back to the cockpit. In the prototype *MB-3*, the guns were set atop the cowling in the breeze and the fairings mentioned were of much smaller size.

Center section flush wing radiators in the original were changed for a split pair in the *MB-3A*, one on each side of the fuselage, low outside the cockpit. The center section was thus utilized for tank space in order to increase the ship's range.

The principal identifying characteristics of the original *MB-3* and Boeing-built *MB-3A* lay in the empennage. It is not known what prompted the changes but it is assumed they provided better control and stability in some manner. At any rate, the modified designs found on the *MB-3A* were the result of wind tunnel experiments. Aviation was truly growing up!

Where the prototype vertical fin and rudder was roughly triangular, the *MB-3A* carried a long, low fin and a high, rectangular balanced rudder.

The next step was the incorporation of a huge, almost rectangular, sail-like vertical fin and an unbalanced rudder. This was the last vertical member change. The horizontal tail surfaces were approximately the same throughout, except for the last fin and rudder change described above. At that time the original balanced horizontal member, with swept leading edge, was changd for a rectangular member with unbalanced elevator. Airfoil section of the latter was unusually thick, although perfectly symmetrical.

Also coincident with the last mentioned changes was the adoption of a four-bladed propeller, although this was not a steadfast rule. Nevertheless, the *MB-3A* was a very formidable looking airplane blasting through the air full throttle, with wires singing and its huge control surfaces in action.

In its production form, the *MB-3A* had a sea level top speed of 140 mph, cruised at 125 mph, and landed at 55 mph. It began going upstairs at a rate of 1,350 ft. per min., and boasted a service ceiling of 19,500 ft. These were rated performances. During the Mitchell Trophy Race held October 14, 1922, however, an *MB-3A* won with a speed of 147.8 mph over a 200 km. course. An *MB-3A* also won the same race the following year with a closed course average of 146.44 mph.

Boeing completed its contract on the *MB-3A* on December 27, 1922, after having delivered the first of the series on July 29 of the same year. These planes were, for nearly four years, the mainstay of the Air Corps pursuit squadrons. They were stationed in various squadrons over the United States, and proved their reliability by chalking up some of the most effective flight time of the period.

But as newer types came into being—true post-war designs—the *MB-3A* was relegated to pursuit training status, on which it remained until as late as 1929, when the last ships were washed out. Only a year and a half before, *MB-3A's* from Kelley Field, Texas, played dogfight scenes in that old W. W. I aviation movie classic, "Wings".

Thus the *MB-3A* can very well claim a place in aviation's Hall of Fame. It was the original first-line American pursuit ship and the first to be produced in quantity following World War I. It established the Boeing Airplane Company as a quality craft builder at a time when the aviation business was really tough. All told, it was an airplane that served well and was tops in its class. THE END

Planning an R.C. Job

(*Continued from page 27*)

glide on a final turn, and apt to go from a spiral into a plummeting uncontrollable dive. They hit relatively undamaged due to extremely heavy construction, but with sufficient force to shear plywood firewalls with the chassis of the radio.

Veteran free flighters insist that rc jobs need more power and in almost all cases find out the hard way that the opposite is true. Ignition gives good control of power but, as everywhere else, glow is used in most cases due to its simplicity and lighter weight. A. K & B *19* will be found a handful even on a six-foot airplane. Experience in rc flying is desirable if any *29* is to be used. Fast flying machines have very definite and sensitive control response, tend to climb high—which can be tough if the plane gets away. For the six footer, use a *19* to start, preferably on the less powerful side. In a five-footer, a Mac *19* flies at a speed controllable only by an experienced hand who wants top contest performance. An .09 will fly a 50-inch machine with all the pep and maneuverability that can be safely handled and will maneuver a fairly heavy 54-56 inch job in a mild wind. The 50-incher would be a contest machine—though it would be very hard to see and maneuver at a 1/4 mile as on cross country—and the 54-56 incher a sport job that can take a beating. Smaller machines can be built, from three to four feet, on .049's to .074's, giving rather snappy acting sport airplanes with an ability to bounce off the ground. But in small sizes, lighter loadings act the way a far heavier loading would act on a big machine, and it will be desirable to go under 12-ounce loading. Ohlsson *19's* and *23's* are used frequently at about five feet. So were the Ardens.

The trend in rc trim is to place the wing at zero degrees—that is, with the bottom surface at zero degrees, the cg at from 35 to 50% of the chord but averaging about 40%. The familiar free flight trim is apt to cause a hanging type of climb, very bad in a wind, and, at a steep enough angle and low enough air speed, an unresponsiveness to the rudder. Many builders assume the radio is not working when the model does not respond; if ground checks were okay, the probability is that the plane is out of trim. To get the forward cg plane to glide, it is generally necessary to have a moderate negative incidence in the stab to hold up the nose. Regardless of ship or trim, it is imperative to maintain a couple of degrees difference in angle between wing and tail, the greater angle being in the wing. Small angles, or no angular differences, or more in the stab, are apt to create bad pitching and stall build-ups and, at high speeds, can tuck the plane under in a fatal dive. Be careful in adding positive to the stabilizer, or negative in a wing, when testing. Half the chord is a desirable limit on rearward placement of cg. On the whole, lifting stabs are to be avoided, although they can be safely employed if areas, thickness, and an incidence is not overdone.

Long moment arms are undesirable. Placement of weights far removed from the cg, although the ship may balance at the same point, creates an inertia in turns and in stall approaches and recoveries that raise hob with your flying. As a general rule, keep the distance between mid-chord points of wing and stab at about 40% of the span when a six to seven aspect ratio is used. Nose length should be from about 75% of chord to 100%, nearer the lower figure, when measured from the leading edge. This will position all batteries forward of the wing, or at about the leading edge position. In rudder only, the longer nosed ship is easier to fly in turns in the wind. The writer has noted on his own ships that those with the heavy battery weight the lowest, as on the fuselage bottom with batteries lying flat, have more abrupt turn entries.

Before flying, it is vital that all warps in the flying surfaces be removed. This is just as important as having a good airplane. A slight warp interferes with control and makes for a sloppy flight, while a bad warp makes controlled flight virtually impossible and a crash a probability.

The crucial moment is that first hand-launched test flight. If an original design, it is better to leave out the radio until you know that the plane will fly right. Do fly with batteries installed. However, it is possible to tie down any of the sets on the market, excepting the McNabb—which requires certain clearances for its antenna—onto foam rubber pads and to protect the receiver suitably in crack-ups that demolish an airplane. The radio is far less susceptible to damage than when a rudder band suspension is used. The man who has flown radio before prefers his test flights with set installed because he knows how to use it to avoid crack-ups due to bad adjustments.

Install slight right-thrust before flying to insure against torque banking the ship in a tight left turn; sometimes slight downthrust lessens the severity of power stalls during the first test. Any competent free flighter can trim for glide and approximately straight power flight. During early stages of rc flying leave a slight turn in the glide so that an out-of-control flight will cover less ground. Have some means of limiting the engine run, such as a short run tank in addition to the big tank. For normal usage, one-minute run is plenty for early flights until you grow familiar with the plane; several minutes is about the limit of what can be flown safely without an out-of-sight if the plane gets away.

The big hurdle is the amount of rudder effect and its adjustment for control for both left and right turn. First, control is more effective under power than in the glide. This means that on most models a good turn control in the glide is apt to give abrupt, diving turns under power. A very powerful, fast model can be rolled by holding rudder in certain climbing attitudes. Diving turns produce violent flare outs and even stalls on recovery. Softening the power turn may give inadequate control in the glide. Glide control should be a shade stronger than necessary to maintain maneuvering power in a breeze, and to help during approaches. All this means that it is advisable to trim the plane to glide rather fast and flat, and to avoid excessive power-on speeds· holding close the gap between glide and power-on speeds eases the compromise of rudder control. Twin rudder ships, however, are relatively free of this condition.

A maximum rudder area need not be larger than 20% of the total vertical tail area and maximum movement on a five or six foot job, not more than 1/4 inch to either side. An area of 10% and a movement of 3/16 is closer to average. When first trying radio in flight, permit the ship to get well up, then apply control for a split second to see response. If small, apply control longer but do not hold turns in either direction until you see that the ship maneuvers easily to both sides. Strong rudder action, particularly if it happens to be strong to one side and weak to the other, can spin the plane in.

When using short motor runs it is safer to let the plane free flight when it has a strong turn tendency, provided the turn obviously will not spin in. Then make the necessary adjustment and try again. Since most first flights are apt to turn left, it is advisable to have right rudder as the first position coming up. If you should find that in a bad turn you can apply opposite rudder quickly, hold that opposite rudder and do not release it unless the ship begins to turn dangerously in the other direction. Never hold rudder in the direction of an involuntary turn.

Sooner or later you will fly in wind. To avoid out-of-control flights—despite radio control, mind you—keep the ship up, wind in front of you. Your ability to keep a plane near by grows rapidly less in proportion to the distance it gets down wind. A model that is poorly adjusted may keep losing ground to the wind and drift away in circles, once behind you. Don't fly straight into the wind. Maintain, instead, a steady essing flight, beginning a turn to, say, the right; then, as soon as the bank is established, swing over into a left turn entry, and so on well up wind. The first few times in the wind, avoid more than a 45-degree, certainly a 90-degree turn, out of the wind until the engine has cut. As soon as it is evident you can keep up wind, try a 180, quickly followed by another 180 back into the wind. The instant you get into trouble begin to ess the flight path, each time going past the wind direction. Keep cutting through the wind. Expert fliers like McElwee, Rosenstock, and others who fly in the windy country habitually do this throughout a 1/4 cross country.

When you become proficient you may want to fly by "blipping." This requires a rudder action that will spin the plane in, either side, when held. A turn is begun by holding the signal just long enough for the bank to establish and the nose to start down. Let off the signal quickly, hitting opposite rudder but without holding it, and immediately come back to the original rudder position. This must be done quickly. Repeating the action over and over enables you to make a turn of any tightness, despite the strong rudder action. It also provides plenty of glide control, still permitting easy power flying. You can hold wide spirals instead of spins, tighten and open a turn or a spiral at will. In effect, you are your own "beep box." With practice you can vary the length of time you hold on rudder, and the length of time you tarry on opposite rudder. The big job shown in the pictures would spin at 90-degrees in a turn but could perform 720's without loss of altitude, when blipped.

Is radio control really this bad? No, of course not. But the first-time-outers run a high rate of attrition of airplanes all because they are not warned of the fundamentals of flying which all of us have to obey to perform consistently. Additional controls, such as elevators, are more of a detriment than a help in the beginning. The people who can fly perfectly on rudder only, and who have perfect rudder-only jobs, can be numbered on the fingers of your two hands. Rudder only is a respectable art. Conquer it first. — BILL WINTER

M.A.N. At Work

(*Continued from page* 1)

Fokker *D-8*, like Ehling's, for those flying scale events popping up all over the country. Ukie men can cause a sensation anywhere with a *Travel Air*. The spectators scream "No," when you begin to stunt. Sure winner, unless you bump into another *Travel Air!*

▸ Matty "Pylon" Sullivan held us spellbound an entire morning. What was he steamed up about? Nylon. Nylon was something for making stockings or covering radio models, we had thought. Actually, it can be molded into many shapes, like a plastic, only it has very great strength. Even use the stuff for transmission gears, they say. After looping the lead-outs of Matty's new nylon bellcrank around a foot and trying to pull the crank apart without success, we listened with amazement to Matty's list of possibilities. These ranged from spinners, team racing landing gears, cowls, pylons, to complete airplanes, such as the *Lil Stinker*, ready for covering. Wings and fuselage might be made with ribs, spars, formers and stringers all in piece, just like you built it. So far Matty has used the magic stuff for cranks and handles, but threatens all kinds of new wrinkles.

▸ Also put together a Control Research receiver. Johnny Worth said that if we couldn't hold out for the new two tube deal, we should try the old one-tube set, modified with the conversion kit. It works fine. Now we are so fascinated by the two meters going at once, one up, and the other down, like a pair of metronomes, that we are too hypnotized to fly. Some real flying coming up!

▸ Remember the ducted fan article in the November issue? It develops that Berkeley has been testing the same idea, only for *.19's* and bigger engines. Extensive tests have been made. Big improvement is a bending over of the fan blade tips, which gives the effect of close wall clearance. This clearance is measured in thousandths in real plane practice, so its importance is easily understood. Still looking forward to seeing a *Sabre* with something like a K & B *.19* howling inside. Wonder if the fuselage will act as muffler? Would leave a stream of exhaust when running rich, too.

▸ Bjorn Karlstrom, of Planes Worth Modeling, is another active modeler. He goes in for flying scale. By American standards they are bulldozers, he says. Need to be, due to gusty winds in Sweden. His *Storch* has a landing gear that compresses one-third of its length on landing. Span is 56 inches. Rubber powered, he said! Bjorn has some really cute three-views coming up for scale fans. February M.A.N. hits the jackpot with the biggest and best collection of plans ever published in M.A.N. Know you will agree.

THE END

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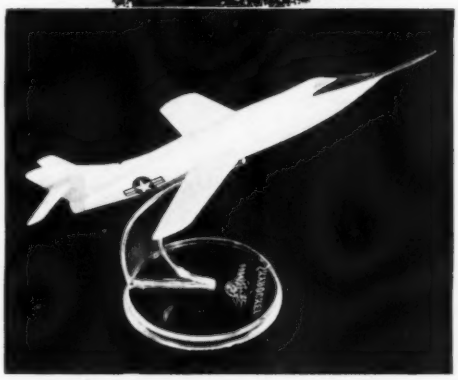

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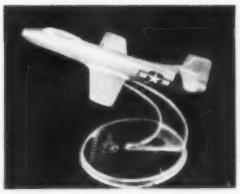

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Planes in the News

(*Continued from page 15*)

absorbed some of the know-how which had partially evolved *Regulus*. (*Regulus* was a surface-to-surface missile under development for the U. S. Navy at Chance Vought.)

After proceeding in this way for a while, *Matador* went into flight tests a couple of years back. Then early in 1951 it was ordered into production after a survey by K. T. Keller, who is director of the Office of Guided Missiles, Dept. of Defense.

So here it is—one of our first guided missiles. It is being evaluated by the USAF Pilotless Light Bomber Squadron at Cocoa, Fla., home of the Joint Long Range Proving Ground. And *Matador* now bears the AF designation of *B-61*, a shrewd political stratagem designed to convince everyone that the Air Force should have cognizance of all such missiles.

And while we're on the subject, there has been progress made in the work on the *Snark*, a long-range missile designed and developed by Northrop Aircraft. It was about five years ago that John K. Northrop testified before the President's Air Policy Commission and gave his views on certain possibilities in long-range, pilotless, turbojet-powered missiles. He spoke then of 4,000-mile ranges and 600-mph speeds.

These figures are probably to come true in the *Snark*. And it's soon to go into the flight-test stage, also at the Long Range Proving Ground. Its launcher: the world's fastest railroad! This is the Northrop rocket-propelled sled which runs on a carefully laid length of railroad track. The sled has been used extensively for experiments on the effects of acceleration and deceleration on the human body; it has also served as a "free-flight" transonic windtunnel in which models are mounted on the sled and hurtle along the track.

▸ *Atomic Aircraft*—In simplest terms, a revolution in aircraft design was quietly announced a while ago. The Air Force awarded a development contract to Consolidated Vultee Aircraft Corp. for a plane to be powered by an atomic engine. Convair's responsibility is to produce the airframe for the nuclear engines being developed by the General Electric Co.

How far off is this? Informed opinion places 1955 as a probable first flight date.

Design-wise, the craft should be not too different from a *B-36*. A nuclear powerplant requires a large plane capable of toting a heavy load. The *B-36* is an existing large craft whose performance characteristics are well known. And propeller engines will most likely be kept, but they'll be turboprops, run off the heat furnished by the active core of the reactor.

▸ *Tomorrow's Interceptors*—Convair has pulled down another interesting contract, along with Republic Aviation Corp. These firms are to build the airframes for the so-called 1954 interceptor, a piloted high-performance craft which is to be ground-directed to altitude. Once at interception range, the pilot takes over, makes his approach to target and fires off an air-to-air missile.

Contracts call for Convair and Republic to carry through windtunnel studies, models and mockups of the designs. You will please note that neither of these designs is actually to be built—at least according to the terms of the current contract. So the program will be delayed while the Air Force makes its mind up after inspecting both mockups and talking to the engineers at the two factories.

▸ *Jet-rotor Copter*—McDonnell Aircraft Corp. has been awarded a Navy contract to develop a huge jet-rotor helicopter, the McDonnell *Model 86*. Its job: to short-haul heavy payloads between ship and shore, payloads as high as 36,000 lbs. And it will fit on a carrier elevator, when the copter rotors are folded.

When the Navy announced the craft, it was stated that a three-blade rotor would be used, powered by McDonnell jet engines at the tips. This could only refer to a development of the ramjet engines used on *Little Henry*.

A cargo winch and sling arrangement will be installed, and the craft is intended to be

'able to pick up cargo pods.

Incidentally, one of the reasons for using a jet-rotor copter is that such a layout permits you to lift the highest percentage of your gross weight as useful load. Or, rewording this rather awkward sentence, it's more efficient.

▸ *New Ordnance*—Korea has been a rude shock to a lot of people who felt that the .50-cal. machine gun was the be-all and end-all of aircraft armament. The comments of Capt. Jabara and others returned from aerial combat over the peninsula have indicated that a lot of AF pilots would certainly appreciate heavier firepower, and that they don't like being up against *MIG's* with large-caliber cannon.

All the mouthings about higher rate of fire for our fifties is poppycock—you only need to stop one to be dead, and a slow-traveling 20mm. or 37mm. shell from a Red cannon does the job rather thoroughly.

So it's encouraging to hear the Air Force testifying before Congress that they have standardized on a new 20mm. aircraft cannon firing an electrically primed shell. The only drawback is that the British, long users of 20mm. cannon, have just upped their caliber to 30mm. in their latest air ordnance. And the Russians have no place to go but up, and that would probably mean 40mm. stuff for them.

We have also standardized on a group of four bombs: 5-ton and 1-1/2-ton high-performance jobs, a 750-lb. general purpose bomb, and a 1,000-lb. low-drag bomb to be slung outside on jet fighter-bombers.

▸ *Two Turboprop Transports*—In its own quiet way, the Navy, like ol' man river, just keeps rolling along. They accomplish things with the money they get, they have a smooth-running operation, and they seem even reasonable about things at times. So it really should be no surprise that the Navy has given the go-ahead to Douglas and Lockheed for the first phase of engineering the *DC-6* and the *L-1049* transports to take turboprops.

Engines for the planes were not specified, but there is little to choose from. Allison's basic *T-38* or P&WA's *T-34* would most likely be considered, in that order. I don't think that the Wright-Armstrong Siddeley line of *Mamba* or *Python* would be selected.

▸ *Hail and Farewell*—The Grumman *Panther* and McDonnell *Banshee*, the Navy's current jet fighters, are to be demoted to second-line status in about six months. Navy explained to Congress that both planes have been outperformed by the *MIG-15*, and that is the final test.

In the place of these fine craft will most likely be the Chance Vought *F7U-3*, production version of the bat-wing jet fighter. Carrier qualification tests have been made on the *Cutlass*, and some previous design changes have been incorporated, so now there is nothing between the plane and sea duty. (You had a three-view of the *Cutlass* last month.)

▸ *More Big Bombers*—And still another word on our big bomber program, which has been making Planes in the News consistently. Convair has been told to make some more *B-36F* bombers at Fort Worth. It's almost impossible to guess just how many of the things they've made now, because the orders have kept coming in. And as fast as a batch is finished and goes out the back door, the Air Force decides to modify them and somebody taxies them around to the front door and the go through again. (It really isn't that bad—it just seems that way.)

▸ *Hardy Perennial*—Here's an old sailor that doesn't die, and in fact, doesn't even show signs of fading away. That Jersey Joe Walcott of fighting planes, the Chance Vought *Corsair*, has just been reordered as a low-level attack plane. Its going to bear the designation *AU-1*, and will have only a single-stage (no supercharging) P&WA R2800-83WA engine. The *Corsair*, which must certainly enjoy the honor of being in production longer than any other fighter in history, is also going to the French as the *F4U-7*.

▸ *Forever and Ever*—That is to be the length of time that the Douglas *DC-3* may remain in transport service. Some time ago, the Civil Aeronautics Board ruled that the *DC-3* was to be retired from active service at the end of its 19th year of airline duty, which would

come at the end of 1953. But the Board reconsidered, in light of the *DC-3* record and airworthiness, and ruled that as far as the CAB was concerned, the *DC-3* could go on carrying passengers just as long as the planes could be kept serviceable.

So you, and your children, and maybe your children's children will be able to ride in this, the grandest of all transports.

For drawings this month, the Supermarine *508* and Ambrosini *S.7* have been chosen. The *508* was flown at the SBAC show and came within that much of being the feature attraction. The Ambrosini job is a little Italian touring (we'd call it sport) plane with some of the loveliest lines I've ever seen. So I drew that one, too.

Thanks for the requests for your favorite three-views, and I'll try to please some of you, at least.

The Flying Razor

(*Continued from page 22*)

length of the rib on sheet balsa using the template to carve the top curve; then, holding the leading edge in place, raise the trailing edge until the bottom edge coincides with the top curve. Just cutting this will produce a rib of the proper height and length. After all the ribs are cut to size, the two center ribs are cut off but not tapered as the rest.

Lay out the leading and trailing edges along with the spars. Place the ribs over their positions and cut the notches for spars where they cross the rib. While cutting the tapered ribs, also cut one for each panel. The right hand panel can be made last as it is drawn under the left panel on the plans.

When all the ribs are cut and cemented in place, add the tip blocks which are cemented in position. Cement the bass-wood blocks which are drilled as shown. Nuts are soldered to sheet brass stock, which is cemented over the hole. This nut is used to anchor the wing to the mount by a bolt coming up through the loop soldered to the wing mount junction.

Carve the leading edge and tips to conform to the rib shape. Sand the entire wing with a large sand paper block to assure a true wing curvature. The edges of the panels are beveled to give the wingtips a rise of 1-1/2" dihedral. Add the wing gussets, which are cut from extra spar material. Re-cement the entire wing to prevent warpage. The wing must be true when you fly with little dihedral. Give it a coat of dope to assure an easy covering job.

Being flat, the stabilizer can be made in one piece and built on the plan. Add all 1/8" sheet-balsa fill-ins and cement well as these keep the frame rigid. Sand the surface and the round edges smooth. The rudder is cut from 1/8" sheet balsa. Note grain direction. Sand smooth, give a coat of dope and sand when dry.

For covering, use light *Silkspan*, cover in with as many pieces necessary to give smooth covering. The covering is applied wet, as this way it is limp and will stretch easily. When dry, dope the entire model. Exercise caution. If the dope you use is of the type that warps easily, add a few drops of castor oil to ease up on the pull. Sand all edges after each doping and re-dope and re-sand. The model should be doped well. Color dope should be used only to color, not as a filler.

The finish is where the modeler can make his selection a winner or just another model. With the addition of *Trim Film* to our finished job, we can now ease the pain that would come at the final stage for such a scale model. The ship shown first was sprayed all white. Used a *Flit* gun. Between each coat, sand the entire model. This will flatten the finish and the next coat will cover much better. After the white dope has been sprayed on to satisfaction, wait from 12 to 18 hours before continuing. With masking tape, mask off the areas which are to stay white; be sure that the tape is on tight. Spray the remainder red. Let the red area dry well before removing tape; if removed while wet, it may raise the edges. When dry, the model is ready for *Trim Film*. Cut the desired designs to shape and apply in the

(*Continued on page 52*)

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places wanted. With the aid of a *Flit* gun, a very light coat of fuel proofer can be applied. This must be applied over the model in a thin coat at a time or the *Trim Film* may lift and shrink. The wheels are given several coats of white and, when dry, the tires can be given a coat of black. The wire strutting is also black. Since there was no standard for the *D-8*, you can use your own favorite design.

Flying is easy. Glide the model, making sure that it is gliding flat and not diving. Fly it with low power. The flight pattern should be nearly straight. This will be safe to get a few flights in, and only then to start getting those circles. R.O.G. flights look best when the model taxis a little first and does not jump off like a contest model.

Scrap Box

(*Continued from page 5*)

ized with the *Pacific Radio Control Society* for two years and more, it being the first organization of its kind on the coast, if not in the country. They take in Modesto, Stockton, Sacramento, Palo Alto, Burlingame, San Mateo, San Francisco, Oakland, Berkeley, and quite a few other cities. The group holds well attended monthly meetings, and has as members nearly all those of the San Francisco *Mustangs* u-control specializing club, as well.

Rockwood adds, in regards to the Radio Controlled Artillery Target ships, that the first half of the description we gave could be applied bodily to their five-channel reed-selector radio-control equipment. He goes on to say, "We can do all they do, with a ship-installed weight of 28 ounces complete; we can do it in a six foot ship with a gross weight of 6-1/2 pounds, and we use the fifth channel for engine-speed control, instead of parachute release, can ROG, which they can't, and land with engine running, so we can take off again if desired, with no assistance from a ground crew. If, as you say, the *Drone* can do anything a big ship will do, so can we, with a ship which the modeler can handle."

E. J. Brown's new ship CQ amassed enough points to take home first place hardware at the Los Angeles All Western Open. He has now incorporated engine control into his model. There should be some plans floating around on this model in the very near future. If you want a screaming hot r.c. stunt job, this is it.

John Knox from up in Halifax, Canada, informs us that some of the smaller model clubs have incorporated into one big one known as the *Shearwater Model Club*. The Royal Canadian Navy is backing them all the way, even to furnishing the Shearwater station for all the free flight activities. The club is very active and is going all out to help the junior members. Gerry McGloin is president. Any of you modelers in that area should contact John Knox, 46 Creighton St., Halifax, N. S., Canada.

• • •

We haven't harped too much on insurance for the modelers. Believe us, it is not, as some may think, something to be taken out by someone else. Accidents can happen in any sport or hobby, and model flying is no exception. The *Western Associated Modelers* have a motion in their safety code which states: No model airplane, glider, or gas motor powered model airplane shall be launched in free flight less than 200-feet from the nearest automobile, building, or a designated spectator area. If a modeler violates the W.A.M. Safety Code, full liability is placed upon him. Flying model airplanes within the rules of the W.A.M. Safety Code is a provision of their Liability Insurance Contract. The 200-foot ruling should be mandatory at all free flight contests.

• • •

Received a preliminary draft of Rules and Specifications of the PAA-Load Event for 1952. Very few changes are proposed, and what few there are would be mainly in the Model Clipper Cargo Event. It is thought that the pay load requirement for AA should be boosted from three ounces to four, keeping the dimensions as they are. In the cargo event, the chief proposal is to require a standard dummy, representing the pilot of the cargo plane. After this draft has been cleared with Dallas Sherman and with the Academy of Model Aeronautics, a settlement will be made on what the requirements will be.

• • •

We heard about another of the unique "get as many flights in a certain amount of time" contests that was held at the Zwartkip Hills near Valhalla, South Africa. The *Pretoria Modellers* had never run into a meet such as this before but all hands entered readily. The object was to get in as many flights as possible during a two hour time limit, all flights to be made with only one model with flights over 15 seconds and under three

(*Continued on page 54*)

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minutes to count. Contestants were not allowed to use any form of transportation to retrieve their models. The winner at the end of the two hour time limit was Mr. Germishuizen with a total of 1,279 seconds.

* * *

In reference to the "team entrant" controversy, Robert Longo of Danvers, Massachusetts, has some well founded comments to make. We would like to quote a few. "I strongly disagree on the point that team entrants should be abolished. Modified yes, but abolished NO! I am a disabled veteran and as a result of that disability I am unable to fly a U-C ship. Because of this should I be deprived of entering a contest? I love to build models (strictly scale) and after spending three or four hundred hours on a model I think I ought to be able to enter it in a contest. I am handicapped under the existing rules in that I have to let my teammate work on any ship I make. I would like to see the rules changed so that I could build a ship that was completely made with my own two hands. Here, in my opinion are some of the changes that I believe would be beneficial to both sides: 1. A team should be limited to two members. 2. One of the two members on every team should be physically incapable of performing all the necessary steps in constructing and flying a model. 3. A teammate need not interfere in any way with the other member's job; such as, one man builds the ship alone and the other member fly it. 4. In all team entries (if two or more in any one contest) the members should have only one job; such as: one member builds all models and the other member flies all models. If one member of a team had nothing to do with the other member's part of the team the chief complaint that 'two heads are better than one' would be eliminated but still the modeler that is handicapped would have an even break. By eliminating the team entrant, a lot of fellows who are fine modelers will be forced to leave a hobby that is a fine form of rehabilitation and also a fine way to stay that way. It doesn't seem fair to me that a group of men participating in a sport should show such unsportsmanlike attitudes."

Scale's the Thing

(*Continued from page 13*)

2. Model must make an official flight of at least 10 secs. to qualify.
3. Three official flights permitted. Number of attempts unlimited.
4. Official flight with highest ratio of flight time to engine run is scored.
5. Highest ratio in contest awarded 300 points. All others in proportion.

Contestants total was awarded as described. *SCORING*: (Max.)—Scale Points (700); Flight Points (300); ROG Bonus (50); No Plans (—20); Total (1050).

While the *Flightmasters* held their contest on August 12th, the *Screaming Demons* were holding a contest on Long Island August 19th. Equal points were awarded for scale and flying. Maximum of 100 points was divided four ways for judging fidelity to scale, amount of detail, workmanship, and finish. For flight points, the model had to R.O.G. and do at least 40 sec. duration to be eligible for scale points. Longest flight of day was awarded 100 points and each following flier was awarded the percentage of points of his best flight over high man.

Such builders as Bob Bolling contend duration means nothing. Since the ship is judged on how close it resembles a real ship in appearance, then why not judge the flying on how near it flies like a real ship? This would be similar to the contests held on West Coast in the '30s, for semi-scale ships. The model is judged for flight points by its take-off, attitude in power flight, smoothness of pull-out at end of power run, glide and landing.

Would this third way of judging eliminate or reduce the element of luck and really bring out the best in flying? This type of flying has proved more interesting to spectators and huge crowds attending the Western "performance" meets. A motor run of 10 seconds is suggested by Bob to give a model time to take-off, climb perhaps 125 feet high, and pull out for a nice glide and landing, all in view of the spectators who really show their appreciation!

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